MITSUBISHI
AUDIO SYSTEMS

SERVICE MANUAL

AUDIO INTELLIGENT SYSTEM

MODEL DA-L70/LT-70

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MITSUBISHI ELECTRIC CORPORATION

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SPECIFICATIONS

DA-L70

AMPLIFIER SECTION

Min. RMS power output

30 watts channel into 8 ohms load at 1 KHz with no more than 0.5% total harmonic distortion.

Total harmonic distortion . . 0.1% at 1 KHz at half power
Input sensitivity/Impedance
- PHONO . . . . . 3 mV/50K ohms
- AUX . . . . . 200 mV/25K ohms
- MIC . . . . . 2 mV/10K ohms

Tone controls
- BASS . . . . . +8 dB at 100 Hz
- TREBLE . . . . . +6 dB at 10 KHz

TUNER SECTION

FM section

Tuning range . . . . . 87.5 – 108 MHz
Usable sensitivity (IHF) . . . . . 12 dBf (1.1 μV – 75 ohms)
Sensitivity (±40 KHz deviation)
- MONO . . . . . 0.8 μV (S/N = 26 dB / 75 ohms)
- STEREO . . . . . 16 μV (S/N = 46 dB / 75 ohms)

Alternate channel selectivity (IHF, ±400 KHz) . . . . 70 dB
Selectivity (DIN, ±300 KHz) . . . . . 55 dB
Signal to noise ratio (IHF) . . . . . 55 dB
- MONO . . . . . 78 dB
- STEREO . . . . . 76 dB

Signal to noise ratio (DIN, weighted)
- MONO . . . . . 72 dB
- STEREO . . . . . 68 dB

Total harmonic distortion (75 KHz deviation)
- MONO 0.3%
- STEREO 0.5%

Capture ratio . . . . . 1.5 dB
Image response ratio . . . . . 45 dB
Spurious response ratio . . . . . 70 dB
AM suppression ratio . . . . . 50 dB
IF response ratio . . . . . 80 dB
- 1 KHz . . . . . 35 dB
- 10 KHz . . . . . 30 dB

Frequncy response . . . . . 50 – 15,000 Hz, ±1 dB

MW section

Tuning range . . . . . 525 – 1,620 KHz
Sensitivity (IHF) . . . . . 300 μV/m
Selectivity (±9 KHz) . . . . . 30 dB
Signal to noise ratio . . . . . 50 dB
Total harmonic distortion 1.0%
Image response ratio . . . . . 40 dB
IF response ratio . . . . . 40 dB

LW section

Tuning range . . . . . 146 – 353 KHz
Sensitivity (S/N = 26 dB) . . . . . 1 mV/m
Signal to noise ratio . . . . . 50 dB
Image response ratio . . . . . 40 dB

CASSETTE TAPE DECK SECTION

Type . . . . . 4-track, 2-channel stereo
Tape speed . . . . . 4.76 cm/sec. (1-7/8 ips)
Head Materials
- REC/PB . . . . . Hard permalloy
- ERASE . . . . . Ferrite

Wow & flutter . . . . . 0.08% Wrms
Signal to noise ratio
- Dolby NR out . . . . . 58 dB
- Dolby NR in . . . . . 68 dB

Frequency response
- Normal . . . . . 30 –16,000 Hz
- Special . . . . . 30 –17,000 Hz
- Metal . . . . . 30 –18,000 Hz

Crosstalk
- Between channels . . . . . 35 dB
- Between tracks . . . . . 65 dB

GENERAL

power consumption . . . . . 180 W
Dimensions (W x H x D) . . . . . 426 x 170 x 300 mm (16-3/4 x 6-11/16 x 11-13/16")
Weight . . . . . 10 kg (22 lbs)

LT-70

TURNTABLE SECTION

Type . . . . . Linear tracking
Drive system . . . . . Belt drive
Motor . . . . . FG servo motor
Platter . . . . . 28 cm (11-13/64") diameter
Platter speeds . . . . . 33-1/3, 45 rpm
Wow & flutter . . . . . 0.06% Wrms
Signal to noise ratio . . . . . 65 dB (DIN-B), 55 dB (IEC-B)
Tonearm . . . . . Linear tracking, straight, static balance
Cartridge . . . . . VM type
Trancking force . . . . . 1.5 gr

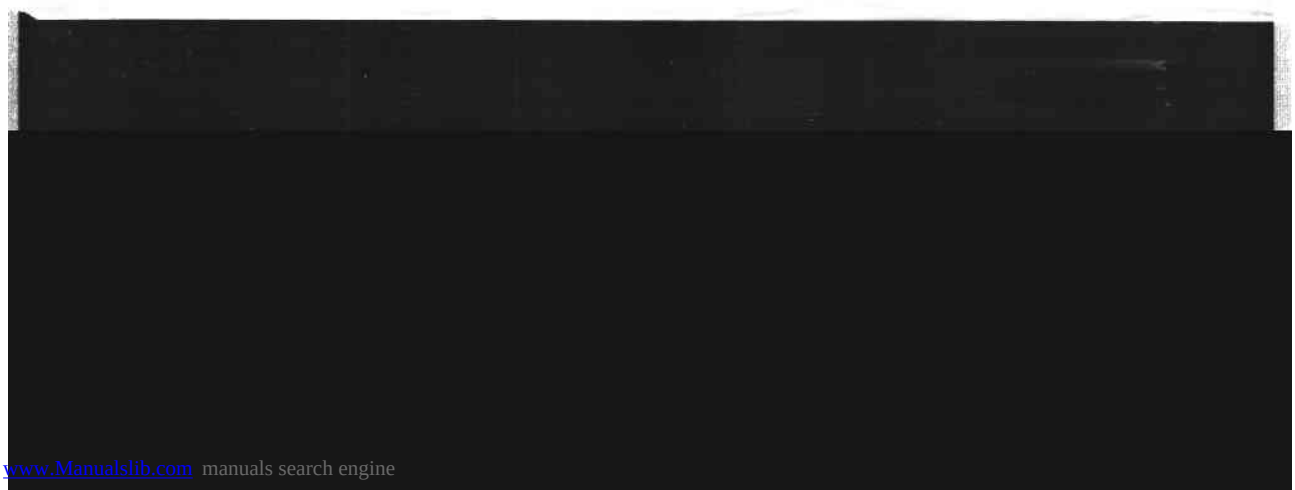
GENERAL

Dimensions (W x H x D) . . . . . 426 x 112 x 320 mm (16-3/4 x 4-7/16 x 12-5/8")
Weight . . . . . 6 kg (13.3 lbs)

ACCESSORIES

T-shaped FM antenna, AM loop antenna
AM loop antenna holder
45 RPM adaptor

- "Dolby" and double-D symbol are trademarks of Dolby Laboratories Licensing Corporaton.
  Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.
- Specifications of this unit are subject to change without notice for improvement.



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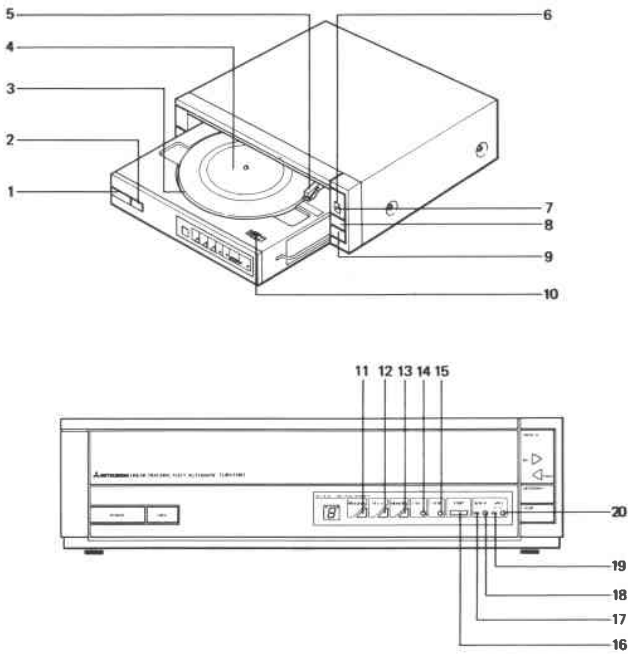
FRONT PANEL TERMINOLOGY AND FUNCTIONS



TURNTABLE

1. Power Switch (POWER)
Press this switch once to turn on the power, and press it once again to turn off the power.

2. Open Button (OPEN)
Pressing this button will cause the turntable unit to slide out from the main unit.

3. Turntable Platter

4. Rubber Sheet

5. Tonearm

6. Tonearm Reverse Button (REV)
Pressing this button will move the tonearm out towards the outer edge of the record.

7. Tonearm Forward Button (FWD)
Pressing this button will move the tonearm forward towards the inside of the record.

8. Tonearm Up and Down Button (UP/DOWN)
Pressing this button once will raise the tonearm from the record surface. Pressing it once again will lower the tonearm onto the record surface.

9. Stop Button (STOP)
Press this button to stop record playback.

10. Sensitivity Select Switch (SENSITIVITY)

11. Program Mode Button (PROGRAM)
Press this button to set the unit to the Program mode. Pressing it once again will disengage the unit from the Program mode.

12. Tune Number Designation Button (TRACK NO)
Press this button when designating the desired tune numbers.

13. Memory Button (MEMORY)
Press this button when entering the tune number into the memory of the unit.

14. Program Call Button (CALL)
Press this button to call out the programs.

15. Program Clear Button (CLEAR)
Press this button to clear the programs.

16. Start Button (START)
Press this button to start Automatic Playback, Program Playback or Manual Playback.

17. Repeat Indicator (REPEAT)
This indicator will light up during Repeat Playback of the record.

18. Repeat Button (REPEAT)
Press this button to carry out Repeat Playback of the record. The Repeat indicator will also light up.

19. Speed Indicator (SPEED)
This indicator will light up at 33-1/3 RPM.

20. Speed Selector Button (SPEED)
The indicator will light up for only 33-1/3 RPM.
Normally the unit will automatically be set to 33-1/3 RPM for 30 cm records and 45 RPM for 17 cm records. However, the rotational speed can be selected manually by pressing this button.

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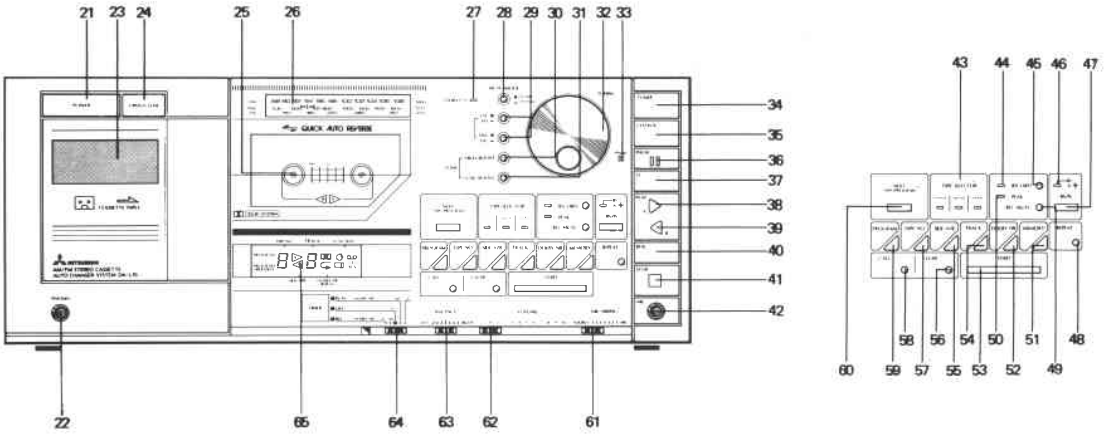

CASSETTE RECEIVER

21. Power Switch (POWER)
Press this switch to turn on the power, and once again to turn off the power.
CAUTION:
This unit is partly connected to the mains even if the POWER is in OFF position. Disconnect the mains lead when you do not intend to use for a long period of time.

22. Headphone Jack (PHONES)

23. Cassette Magazine
The Cassette Magazine is capable of accepting up to 7 cassette tapes.

24. Cassette Magazine Open and Close Button (OPEN/CLOSE)
Pressing this button will cause the Cassette Magazine to slide itself out from the main unit. Pressing it once again will cause the Cassette Magazine to retract itself back into the main unit.

25. Cassette Holder

26. Station Frequency Dial

27. FM Stereo Indicator (STEREO)
This indicator will light up when FM stereo broadcasts are being received. The indicator will not light up when the MUTE/MODE switch is set to OFF/MONO (→).

28. FM Muting/Mode Switch (MUTE/MODE)
This switch should normally be set to ON/AUTO (→). Set this switch to OFF/MONO (→) when there is excessive noise or reception interference during FM stereo reception. Although the broadcast will be received in monaural, the noise will be reduced.

29. Reception Band Selector Switch (FM/AM, MW/LW)
Press these switches to select either FM or AM (LW, MW) broadcasts.

30. High Frequency Boost Switch (HIGH BOOST)
Push this switch on (→) to boost the treble.

31. Low Frequency Boost Switch (LOW BOOST)
Push this switch on (→) to boost the bass.

32. Tuning Knob (TUNING)
Use this knob to tune in either AM (LW, MW) or FM broadcast stations.

33. Pause Indicator (PAUSE)
This indicator lights up when the unit has been put into the PAUSE mode by pressing the PAUSE button. Pressing the PAUSE button once again will disengage the unit from the PAUSE mode, and will cause this indicator to go out.

34. Tuner Button (TUNER)
Press this button to listen to either AM (LW, MW) or FM radio.

35. CD/Auxiliary Input Select Button (CD/AUX)
Press this button to listen to the components connected to the CD/AUX terminals of this unit.

36. Pause Button (PAUSE)

37. Tape Fast Forward Button (FF)

38. Tape Playback Button (PLAY A)
Press this button to listen to side A of the tape.

39. Tape Playback Button (PLAY B)
Press this button to listen to side B of the tape.

40. Tape Rewind Button (REW)

41. Stop Button (STOP)

42. Microphone Jack (MIC)

43. Tape Indicators (TAPE SELECTOR)
NORMAL: This indicator will light up when Normal tape is being used.
SPECIAL: This indicator will light up when Chrome tape is being used.
METAL: This indicator will light up when Metal tape is being used.

44. Recording Indicator (RECORD)
This indicator lights up when the unit is in the RECORDING mode.

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45. Recording Button (RECORD)
This button can be used to put the unit into the RECORDING mode by pressing it simultaneously with the PLAY A button, the PLAY B button, or the START button.

46. Blank Skip/Intro Scan Indicator (BS/IS)

47. Blank Skip/Intro Scan Button (BS/IS)

48. Repeat Button (REPEAT)
Pressing this button once will cause the unit to repeat the playback of the tape, and the REPEAT indicator (⟲) on the fluorescent display panel will light up. Pressing it once again will disengage this function.

49. Recording Mute Button (REC MUTE)
Pressing this button will create a five second long soundless section on the tape and will set the unit to the recording standby mode.

50. Peak Indicator (PEAK)

51. Memory Button (MEMORY)

52. Dolby NR Button (DOLBY NR)

53. Start Button (START)

54. Tune Number Designation Button (TRACK NO)

55. Side Designation Button (SIDE A/B)

56. Program Clear Button (CLEAR)

57. Tape Number Designation Button (TAPE NO)

58. Program Call Button (CALL)

59. Program Mode Button (PROGRAM)

60. Next TAPE/PROGRAM Button (NEXT)
Pressing this button when a cassette tape is mounted in the cassette holder will exchange that tape with the next tape from the cassette magazine.
Pressing this button during program playback will switch the unit to the next program.

61. Microphone Mixing Level Control Knob (MIXING)
Sliding this knob towards the right will increase the volume of the microphone, and sliding it towards the left will increase the sound of the source which you select.
* Normally, set this knob to the left as far as it will go.

62. Volume Control Knob (VOLUME)

63. Left and Right Volume Balance Knob (BALANCE)

64. Timer Switch (TIMER)
Use this function when making unattended recordings or when using the cassette tape deck as a musical alarm clock.
* Normally this switch should be set to OFF.

65. Fluorescent Display

MAINTENANCE

Cleaning tape head and capstan

Periodic cleaning of the tape head, capstan driving shaft and other tape contacting sufaces is required to obtain correct tape operations and the optimum frequency response. Clean all tape contacting surfaces with a head cleaner.

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DISASSEMBLY PROCEDURE

1. DISASSEMBLING THE DECK RECEIVER

1. Top cover

1) Remove the four screws (A) and the three screws (B) that secure the top cover. Next, slide the cover backwards and remove it. (Fig. 1)

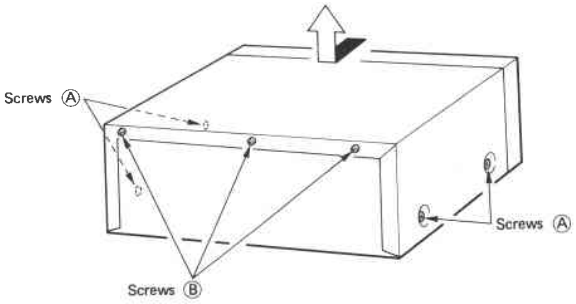

Fig. 1

2. Front panel

1) Turn on the power and open the cassette magazine by pressing the OPEN/CLOSE switch. Remove the cassette magazine or the cassette magazine cover. (The deck receiver can be disassembled even when only the cassette magazine cover has been removed.)
2) Remove the five screws (A) and remove the front panel. (Fig. 2)

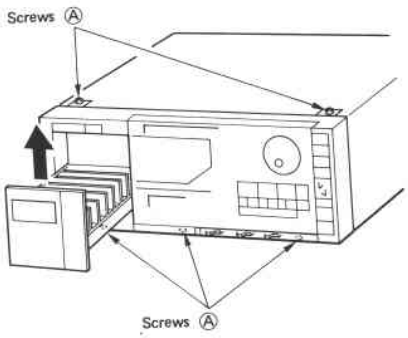

Fig. 2

3. Tuner section

Remove the tuning dial. Remove the four screws (A), the two screws (B) and the three screws (C), and remove the flat cable connectors (J201, J701). (Fig. 3)

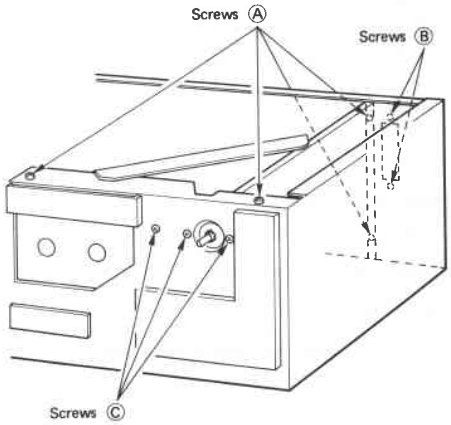

Fig. 3

4. Mechanism chassis

1) Remove the six screws (A), and three screws (B), and also remove the various cords from their respective connectors. (The machanism chassis can be remove even with the cassette magazine still in place.) (Fig. 4)

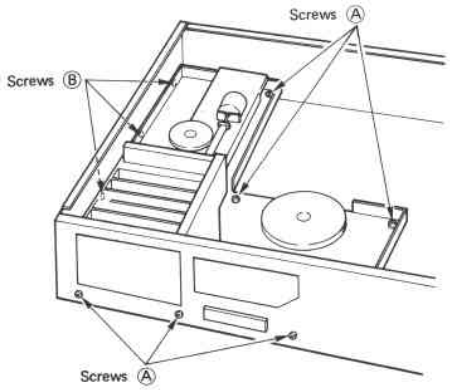

Fig. 4

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5. Cassette mechanism

1) Remove the two screws (A) and then remove the cassette transport rail.
2) Remove the two screws (B) and then remove the cassette holder.
3) Remove the four screws (C). (Fig. 5)

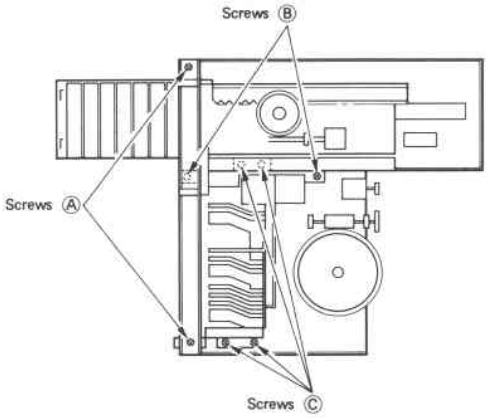

Fig. 5

2. DISASSEMBLING THE RECORD PLAYER

1. Top cover

1) Remove the four screws (A) and the five screws (B). (Fig. 6)

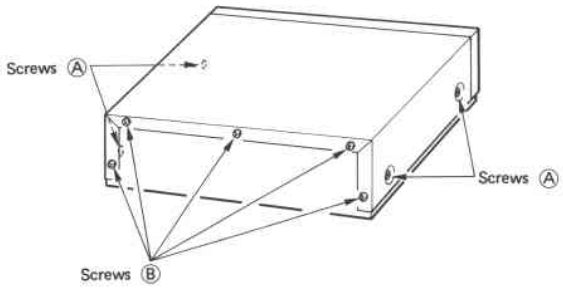

Fig. 6

2. Front panel

1) Remove the five screws (A). (Fig. 7)

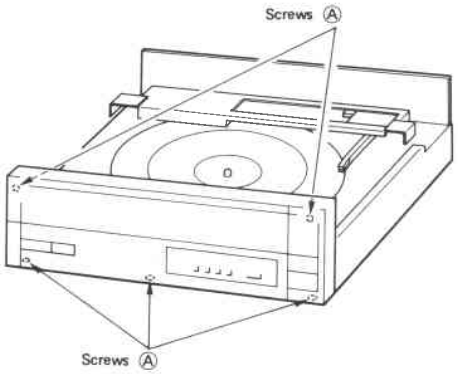

Fig. 7

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3. Sliding door

1) Remove the two screws (A).
The door can be removed by removing the holder from one side. (Fig. 8)

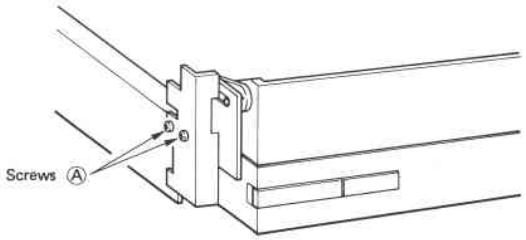

Fig. 8

4. Tonearm base

1) Remove the two screws (A) of the tonearm base. Be careful not to damage any of the cords. (Fig. 9)

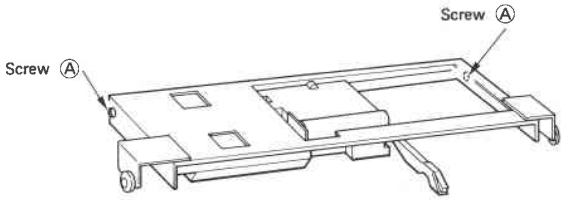

Fig. 9

5. Record platter

1) Remove the E ring of the platter shaft and remove the record sheet by pulling it upwards. (When you do not intend to remove the motor, the record player can be disassembled without removeing the record sheet.)
2) Remove the four screws (A). (Fig. 10)

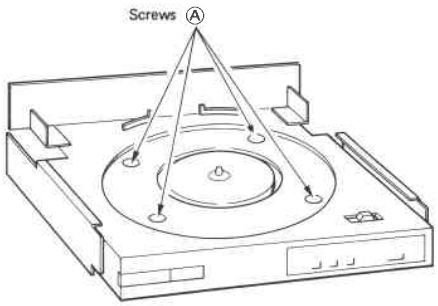

Fig. 10

6. Circuit board

1) Turn over the record platter and remove the six screws (A). (Fig. 11)

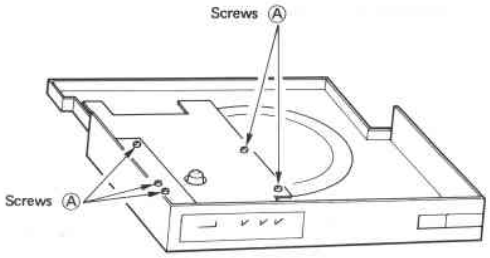

Fig. 11

7. Motor

1) Remove the three screws (A). (Fig. 12)

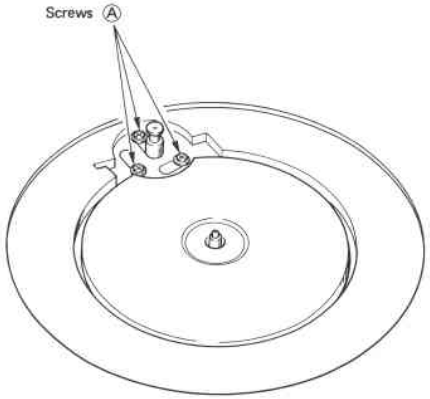

Fig. 12

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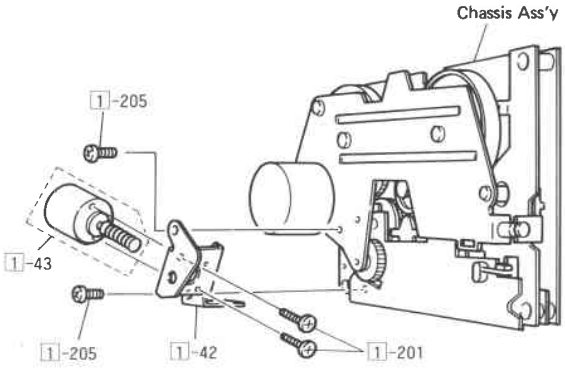
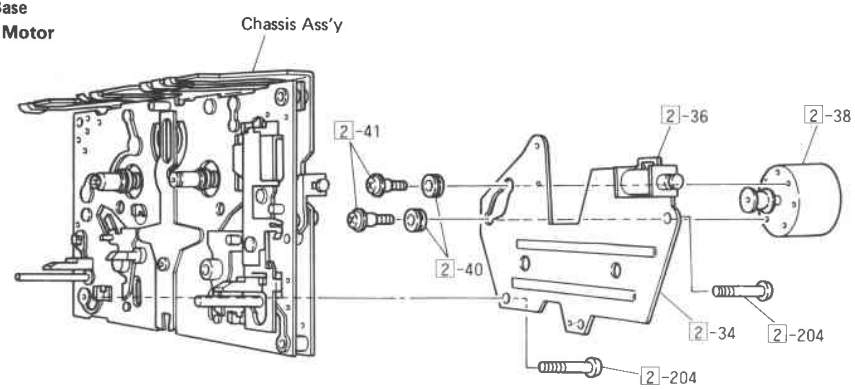
DISASSEMBLING THE MECHANISM ASSEMBLY

1. Rear Side of Mechanism

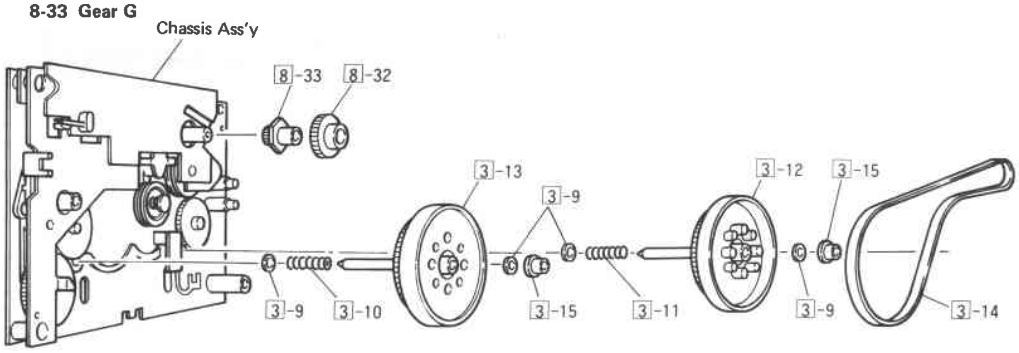
1) 1-43 Came Motor



2) 2-34 Motor Base
2-38 Capstan Motor



3) 3-12 Flywheel A
3-13 Flywheel B
3-14 Main Belt
8-32 Gear H
8-33 Gear G



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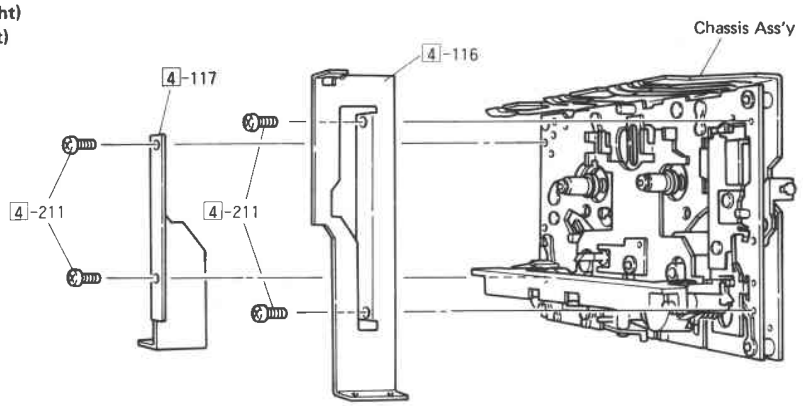
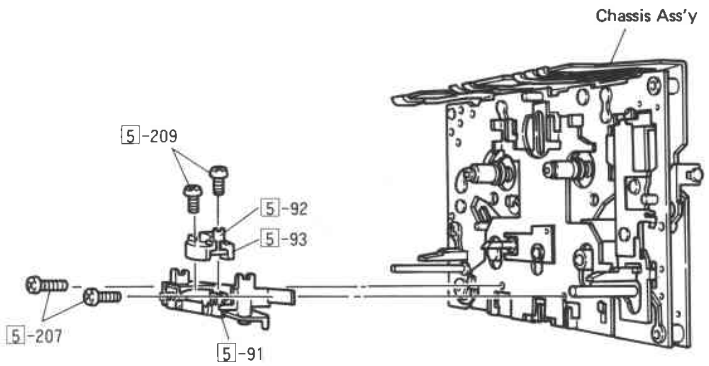
2. Front Side of Mechanism

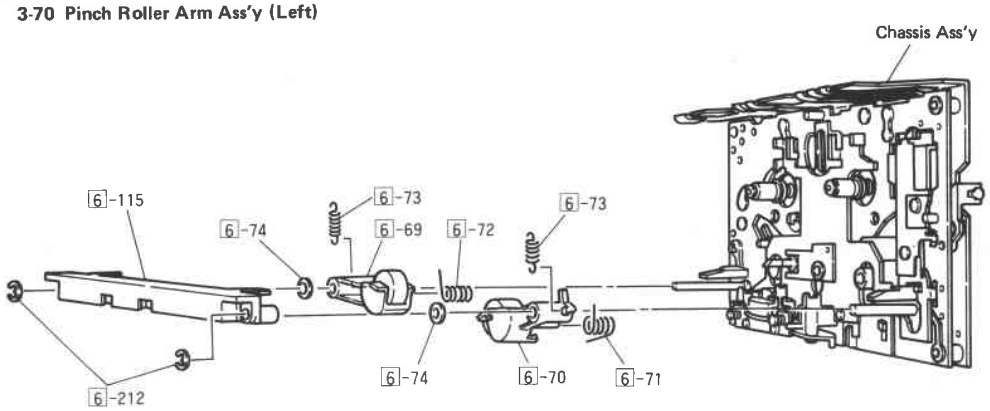
1) 4-116 Holder (Right)
4-117 Holder (Left)



2) 5-91 Head Stand
5-92 R/P/E Head
5-93 Head Holder Ass'y



3) 6-69 Pinch Roller Arm Ass'y (Right)
3-70 Pinch Roller Arm Ass'y (Left)



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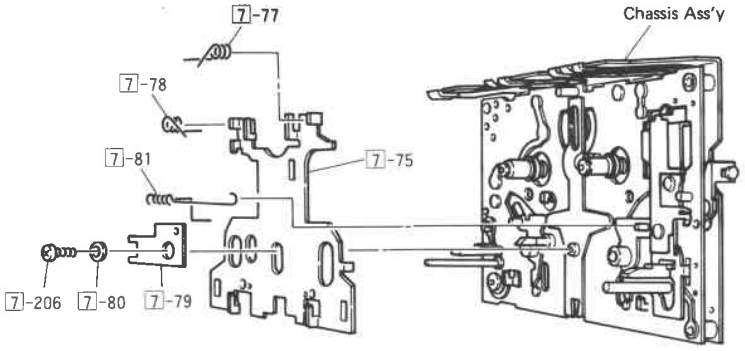
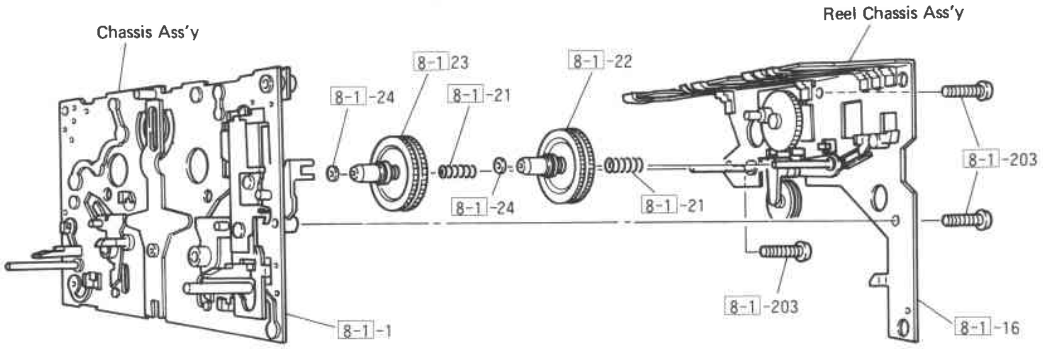
4) 7-75 Head Base



5) 8-1-1 Chassis Ass'y
8-1-16 Reel Chassis Ass'y
8-1-22 F Real Ass'y
8-1-23 R Real Ass'y



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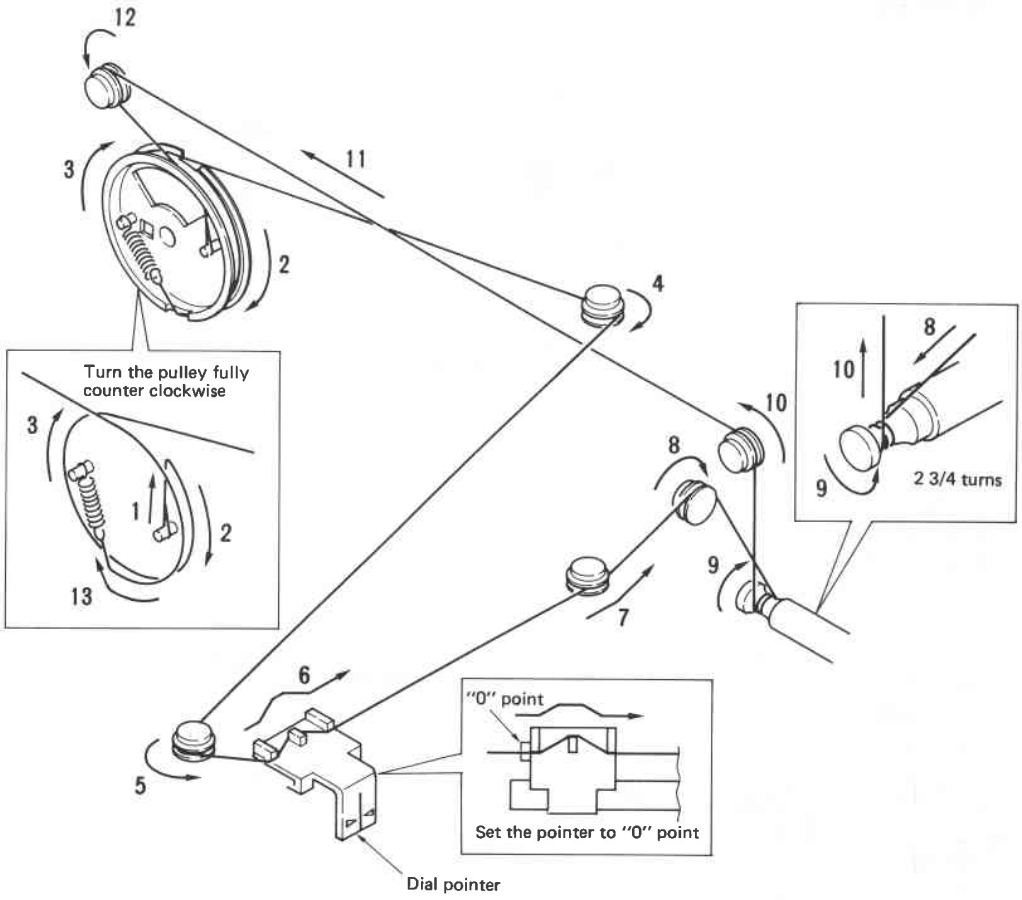
DIAL CORD STRINGING



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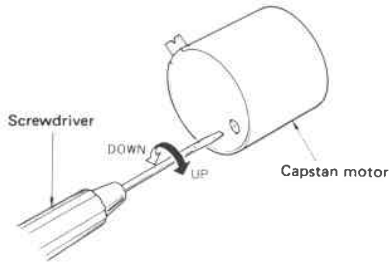
ADJUSTMENTS

TAPE DECK SECTION

1. Tape Speed Adjustment

1) Setup . . . . . Connect a frequency counter to the output terminals.
2) Test Tape . . . . . MTT-111 (3 kHz)
3) Adjustment Procedure . . . . . Play back the test tape and adjust the VR through in the motor base with a screwdriver to obtain a frequency counter reading of 3,000 ± 10 Hz.



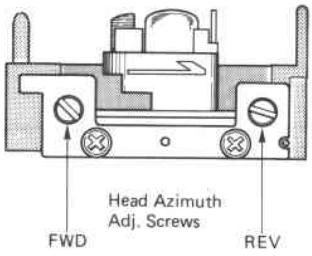
1. Tape head azimuth adjustment

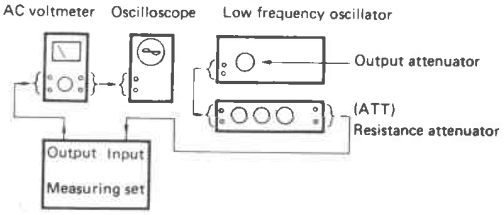
1) Connect an AC voltmeter or an oscilloscope to the speaker terminals.

* **Set the playback output volume to the maximum setting.**

2) Test tape: TCC–173A (10 kHz/315 Hz)
3) Adjustment procedure: Playback the 10 kHz signal of the test tape and adjust the tape head azimuth adjustment screw so that the output level of both channels is at its maximum.

* **For the FWD direction, use the left–hand tape head azimuth adjustment screw, For the REV direction, use the right–hand tape head azimuth adjustment screw.**





2. Playback adjustments

1) Playback output level
a. Test tape: TCC–130 (MTT–150)
b. Adjustment points: VR501, VR601 (L, Rch)
c. Adjustment procedure: Adjust VR501 and VR601 so that pin 15 of IC502 and IC602 registers 580mV (4.7dBV) +/– 0.25dB, or so that W751 and W753 (L, Rch) register –5.2dBV +/– 0.25dB, or so that the REC OUT terminals register –5.2dBV +/– 0.25dB.

3.Recording adjustments

* **Carry out measurements across R501 and R601 (220 ohms) to check the following adjustments.**

1) Bias frequency
a. Adjustment point: OSC–UNIT adjustment recess
b. Adjustment procedure: Adjust the frequency to 85 kHz +/– 0.3 kHz.

2) Bias current preset
a. Adjustment point: VR504, VR604
b. Adjustment procedure: Adjust Special to 550 μA, Normal to 440 μA, and Metal to 900 μA.

3) Recording current preset
a. Adjustment points: VR503, VR603
b. Adjustment procedure: Adjust Special to 80 μA, Normal to 65 μA, and Metal to 110 μA.

4) Peaking amount
a. Adjustment procedure: Using 400 Hz at the Special position as the reference, adjust 10 kHz to + 7.5dB, and 12.5 kHz to + 12dB.

5) Recording current adjustment
a. Test tape: Special AC512, Normal AC223, and Metal AC711.
b. Adjustment points: VR503, VR603
c. Adjustment procedure: Adjust VR503 and VR603 so that the recording monitor level (A) and the recording playback level (B) are the same at 15 of IC502 and IC603.
Or, at W751 and W753 so that B is 0.5dB lower than A.

6) Bias current adjustment
a. Test tape: AC512
b. Adjustment points: VR504, VR604
c. Adjustment procedure: Adjust so that the 6.3 kHz level is within 0 + 0.5dB of the 400 kHz level.

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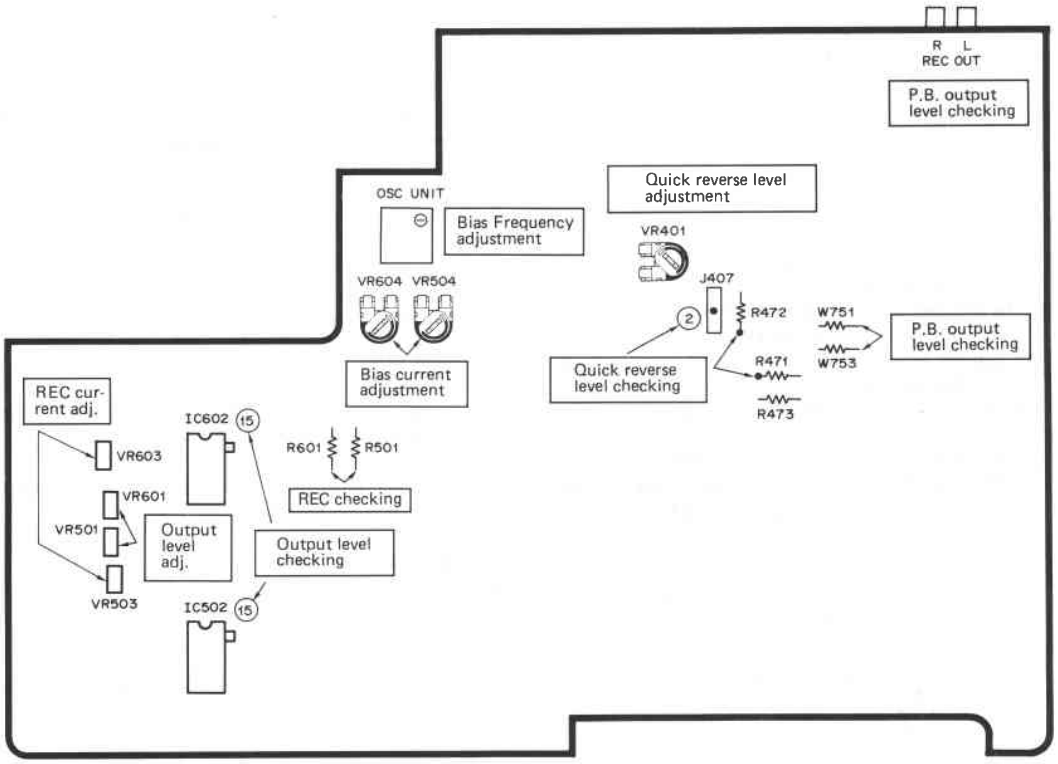
4. Quick reverse level adjustment

a. Test tape: Magnetic tape portion of TDK–AD120 cassette tape.
b. Adjustment point: VR401
c. Adjustment point: Adjust VR401 so that during playback, pin 2 of J407 (one end of R472) registers 3.2 +/– 0.2V, or so that the R471 and R473 contact points register 1.6 +/– 0.1V.

TAPE DECK SECTION ADJUSTMENT POINT DIAGRAM



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TUNER SECTION

1. FM adjustment procedure

1) Set every trimmer on the variable capacitor to the center position, except for C3. Set C3 to minimum capacitance.
2) Adjust L203 and TC205 so that the tuner section will receive 87.5 MHz at the maximum capacitance of the variable capacitor and 108 MHz at the minimum capacitance of the variable capacitor. Adjust L201, L202, as well as C6 (TC201) and C4 (TC202) of the variable capacitor so that the sensitivity will be at the maximum setting for each adjustment point.
3) Adjust T201 and trim the S curve.
4) AdjustVR201 so that the Vco frequency will be 19 kHz +/– 50 Hz at the test point when a non-modulated 80 MHz, 65 dBf signal is received.
   Be sure that S202 it set to the Auto position when carring out this adjustment.
5) Adjust the trimmer TC205 so that the indicator is set to 80 MHz for the above reception test. (Above 1–4)
6) Adjust T201 for the minimum distortion when a 1 kHz modulation, 75 kHz dev. signal is received. (This can be carried out in without the above adjustment step 1–3.)

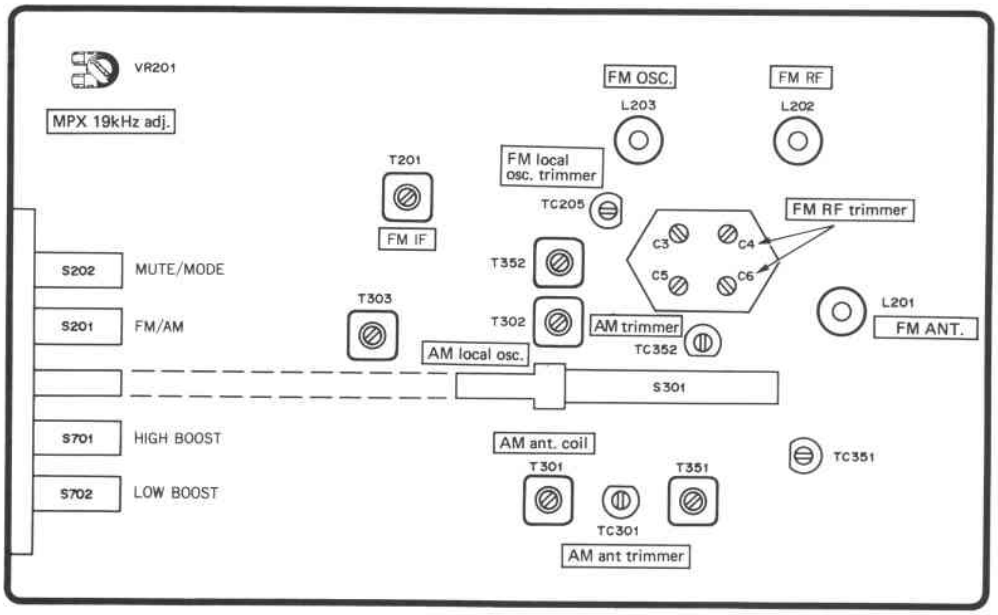
2. MW adjustment procedure

1) Adjust T302 so that the tuner section will receive 520 kHz at the maximum capacitance of the varible capacitor.
2) Adjust the trimmer C5 (TC302) of the variable capacitor so that the tuner section will receive 1,650 kHz at the minimum capacitance of the variable capacitor.
   Carry out the above adjustments (2–1, 2–2) several times until the best results for both are obtained.
3) Adjust T301 for the maximum sensitivity at 600 kHz.
4) Adjust TC301 for the maximum sensitivity at 1,400 kHz.
   Carry out the above adjustments (2–3, 2–4) several times until the best results for both are obtained.

3. LW adjustment procedure

1) Adjust T352 so that the tuner section will receive 140 kHz at the maximum capacitance of the varible capacitor.
2) Adjust the trimmer C5 (TC352) of the variable capacitor so that the tuner section will receive 360 kHz at the minimum capacitance of the variable capacitor.
   Carry out the above adjustments (2–1, 2–2) several times until the best results for both are obtained.
3) Adjust T351 for the maximum sensitivity at 150 kHz.
4) Adjust TC351 for the maximum sensitivity at 350 kHz.
   Carry out the above adjustments (2–3, 2–4) several times until the best results for both are obtained.

TAPE DECK SECTION ADJUSTMENT POINT DIAGRAM



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RECORD PLAYER SECTION

1. Adjusting the horizontal motor/tonearm.

1) Place a standard 30 cm record onto the record platter.
2) Use the FWD key to shift the tonearm. (10 mm/sec. velocity)
3) Adjust the stylus height adjustment screw so that the height from the cartridge stylus to the record is 4.0 +/– 0.5 mm.
4) Operate the START key and then the UP/DOWN key to lower the stylus onto the record. Once the tonearm begins to track the record, raise and lower the tonearm by operating the UP/DOWN key. Adjust the eccentic pin until the movement is smooth.

2. Adjusting the record platter speed.

1) Adjust VR103 so that the frequency counter registers 3,000 Hz +/– 50 Hz at 33 rpm.
2) Set the record player to 45 rpm by operating the 33/45 key. Adjust VR102 so that the frequency counter registers 4,050 Hz +/– 50 Hz
   *** Wow and flutter less than 0.15 % (WTD).**

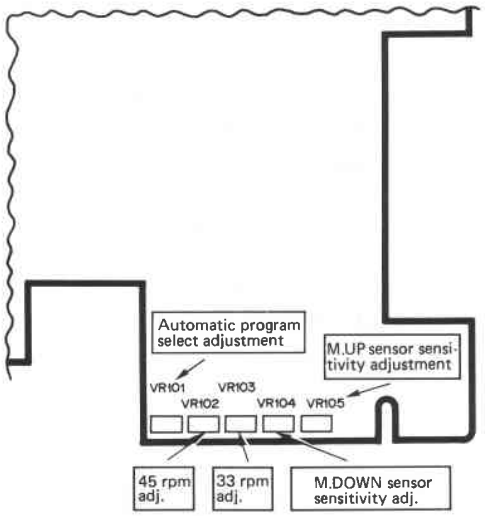
3. Adjustment of the automatic program select and the detection functions.

1) Position the tonearm above a portion of the record that does not have any grooves cut into it. (or, Position the tonearm above a record that does not have any grooves cut into it.)
2) With the tonearm in the UP position, Adjust VR105 so that the MRPS–UP terminal registers DC2.5V on a DC voltmeter. (Do not adjust VR105 from the maximum right-hand position.)
3) Lower the tonearm by operating the UP/DOWN key. Adjust VR104 so that the MRPS–DOWN terminal registers DC2.5V on a DC voltmeter.
4) Select the third program on the program select test record. Check to see that the tonearm lowers itself at the end of the second program, and that at the third program the MUTE is released within 2 – 6 sec.
   Adjust VR101 if the MUTE is not released within the specified time interval. (Set the sensitivity selector switch to NORMAL for this adjustment.)

4. Checking the lead-in function.

1) Set the test record onto the record platter.
2) Operate the START key and check to see that the lead-in function operates. (Count value 20 – 40)

RECORD PLAYER SECTION ADJUSTMENT POINT DIAGRAM



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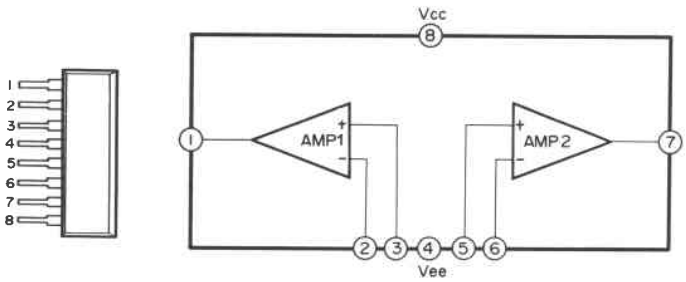
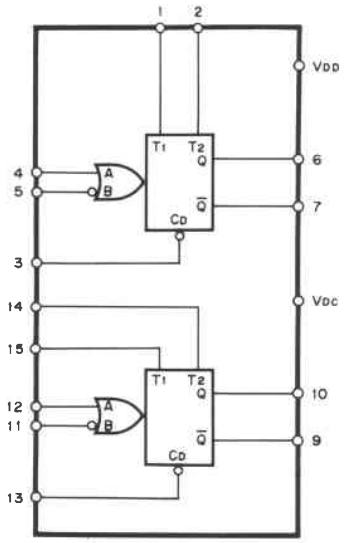
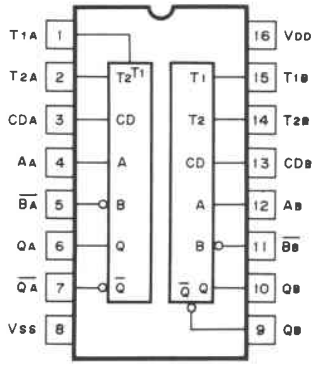
INTER DIAGRAMS AND PINOUT OF INTEGRATED CIRCUITE

IC 101, 102, 109, 701 : M5218L

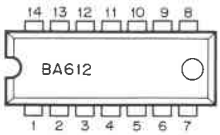


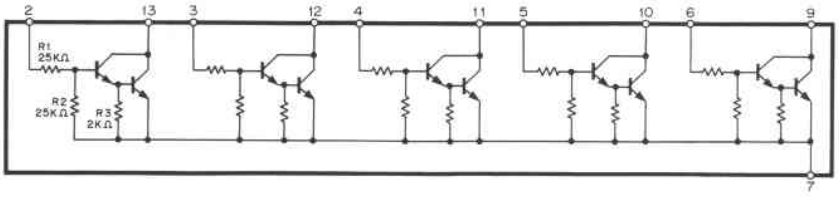
IC 103 : HD14538BP/MSM4538RS





IC 151 : BA612





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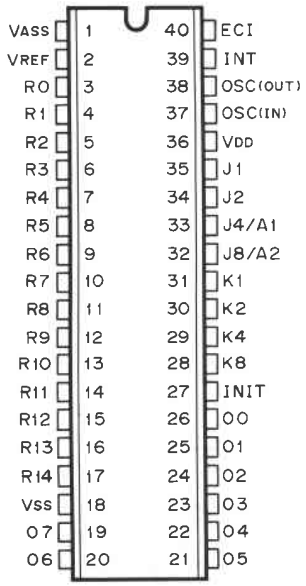
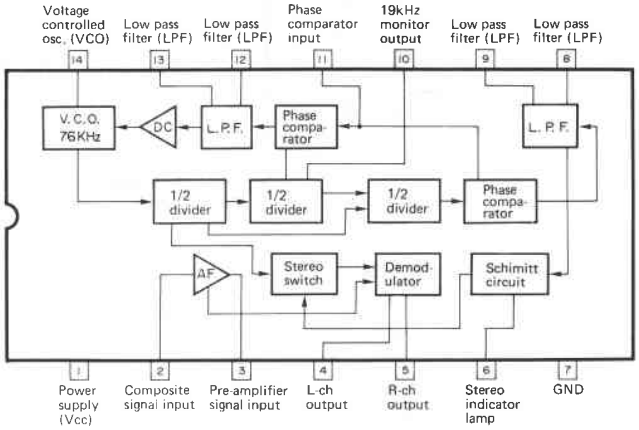
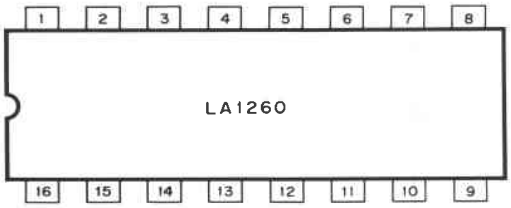
IC 152 : M52031

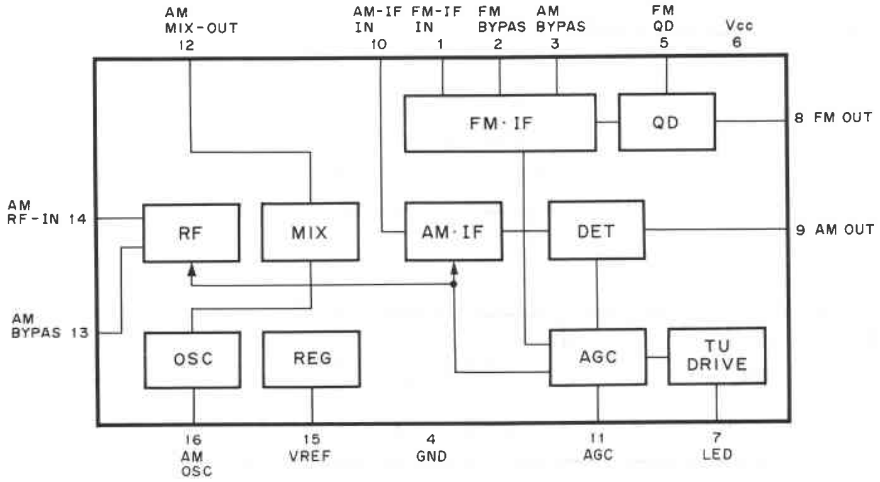


IC 202 : μPC1026C
MPX



IC 201 : LA1260
AM/FM-RF
IF
DET





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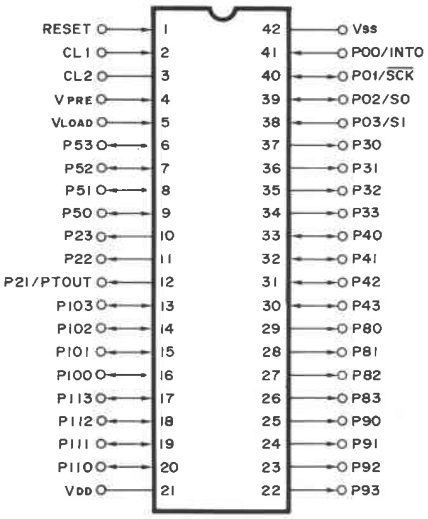
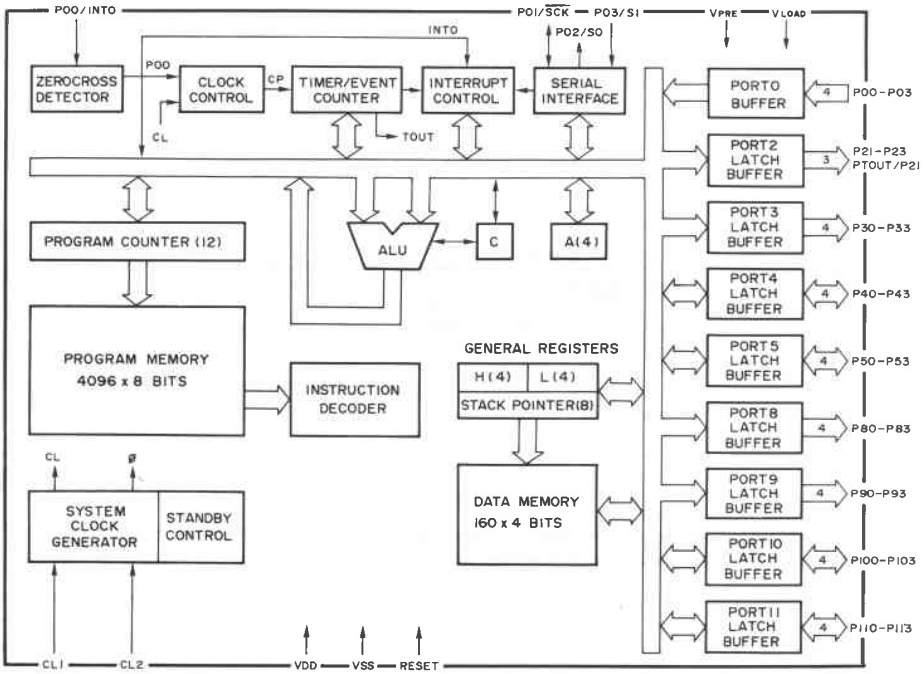
IC 401 : μPD7538C-025 / μPD7538C-033
MYCON





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Terminal nomenclature	Input/output	Functions	RESET functions
P00/INT0	Input	4-bit input terminal for port 0 (4-bit input port). Also function as external interruptor input (INTO), zero cross detector input, serial clock input/output (SCK), serial data output (SO), and serial data input (SI).	Input
P01/SCK	Input/output		
P02/SO	Input/output		
P03/SI	Input		
P21/PTOUT	Output	3-bit high voltage resistant output terminal for port 2 (3-bit output port). Also function as TOUT (PTOUT).	Low output when a pull-down resistor is used. High impedance open drain output.
P22, P23			
P30-P33	Output	4-bit high voltage resistant output terminal for port 3 (4-bit output port).	
P40-P43	Input/output	4-bit high voltage resistant input/output terminal for port 4 (4-bit input/output port).	
P50-P53	Input/output	4-bit high voltage resistant input/output terminal for port 5 (4-bit input/output port).	
P80-83P	Output	4-bit high voltage and current resistant output terminal for port 8 (4-bit output port). Bit set/reset possible through SPBL and RPBL commands.	
P90-P93	Output	4-bit high voltage and current resistant output terminal for port 9 (4-bit output port). Bit set/reset possible through SPBL and RPBL commands.	
P100-P103	Input/output	4-bit high voltage and current resistant input/output terminal for port 20 (4-bit input/output port). Bit set/reset possible through SPBL and RPBL commands.	
P110-P113	Input/output	4-bit high voltage and current resistant input/output terminal for port 11 (4-bit input/output port). Bit set/reset possible through SPBL and RPBL commands.	
CL1, CL2		Connection terminal for clock oscillation ceramic oscillator or crystal oscillator. CL1 is the external clock input.	
RESET	Input	Reset input.	
V_{PRE}		Negative power supply for high voltage resistant preamplifier dirver. (Port 2–5, 8–11)	
V_{LOAD}		Negative power supply for optional load resistor of high voltage resistant preamplifier driver. (Port 2–5, 8–11)	
V_{DD}		Positive power supply.	
V_{SS}		GND electric potential.	

***NOTE:**

1. Open drain output or a pulldown resistor (load resistor) can be selected as a mask option for the output drivers of ports 2–5 and 8–11. V_{LOAD} power supply indicates that a pulldown resistor is being used.
2. Ports 2–5 are suitable for the segment signal output of the fluorescent display tube, and ports 3–11 are suitable for the digit signal output of the fluorescent display tube.
3. Since ports 8–11 have high current driving capabilities, these can be used to directly drive LEDs.

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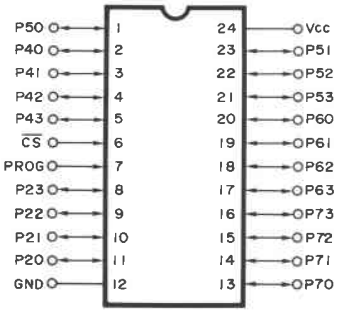
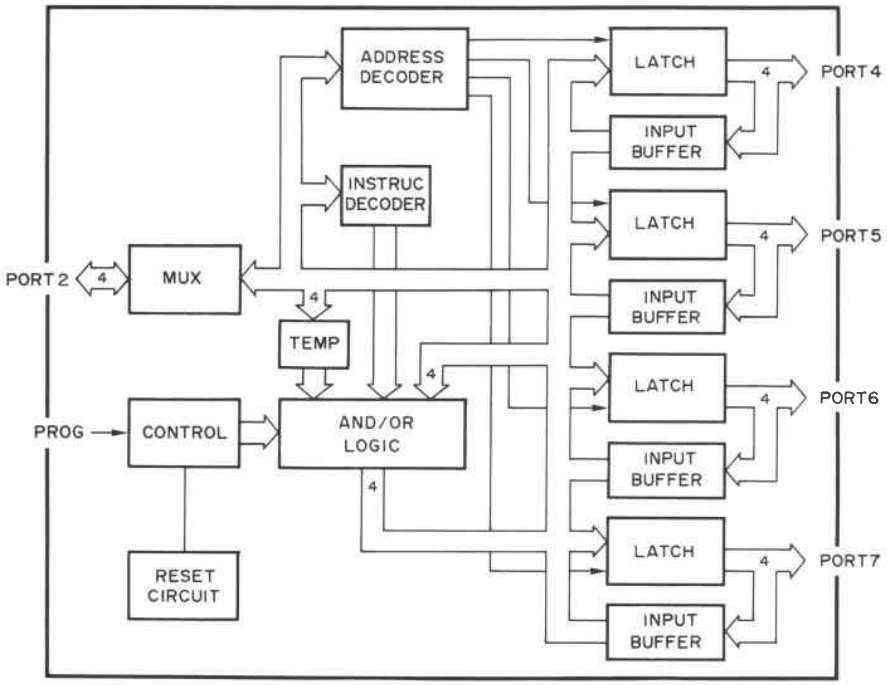
IC 402 : μPD8243C
DECK CONTROL





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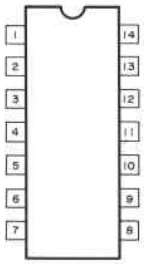
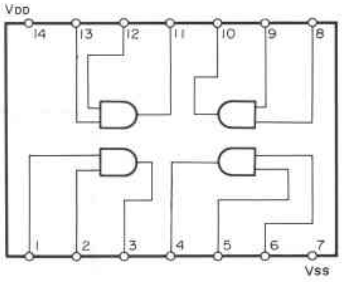
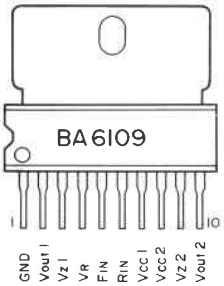
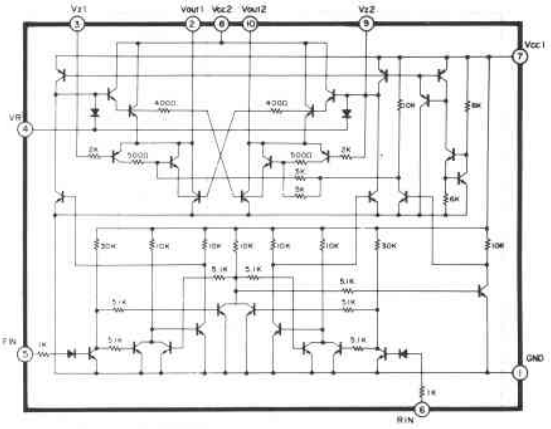
IC 403, 404 : TC4081BP
AND GATE



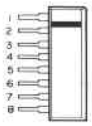


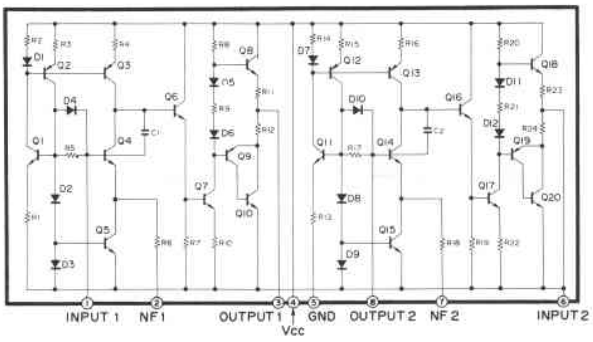
IC 405, 406, 407 : BA6109
MOTOR DRIVE





IC 501 : M51522L
PRE AMP.





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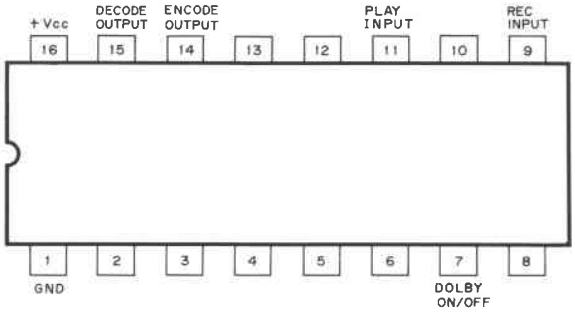
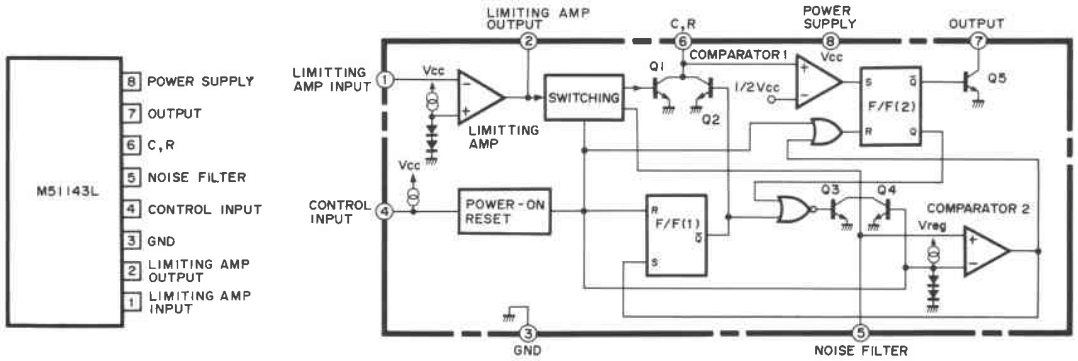
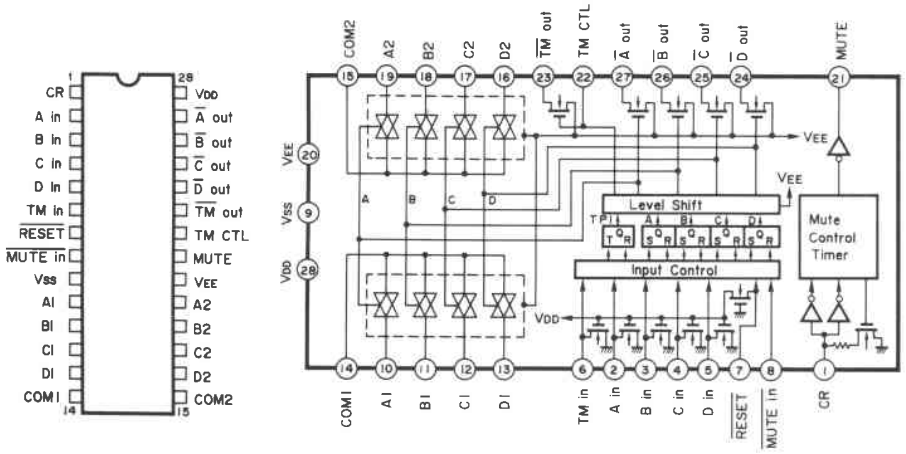
IC 502, 602 : μPC1210C
DOLBY-NR



IC 503 : M51143L
MRPS



IC 702 : LC7815H
FUNCTION



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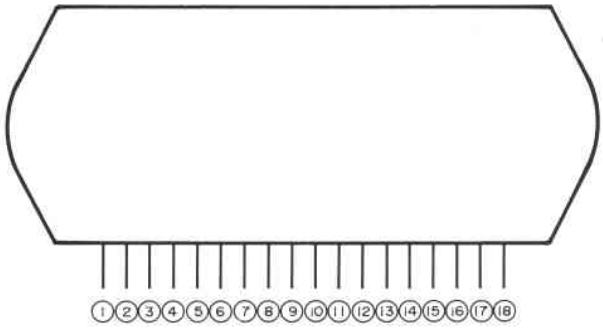
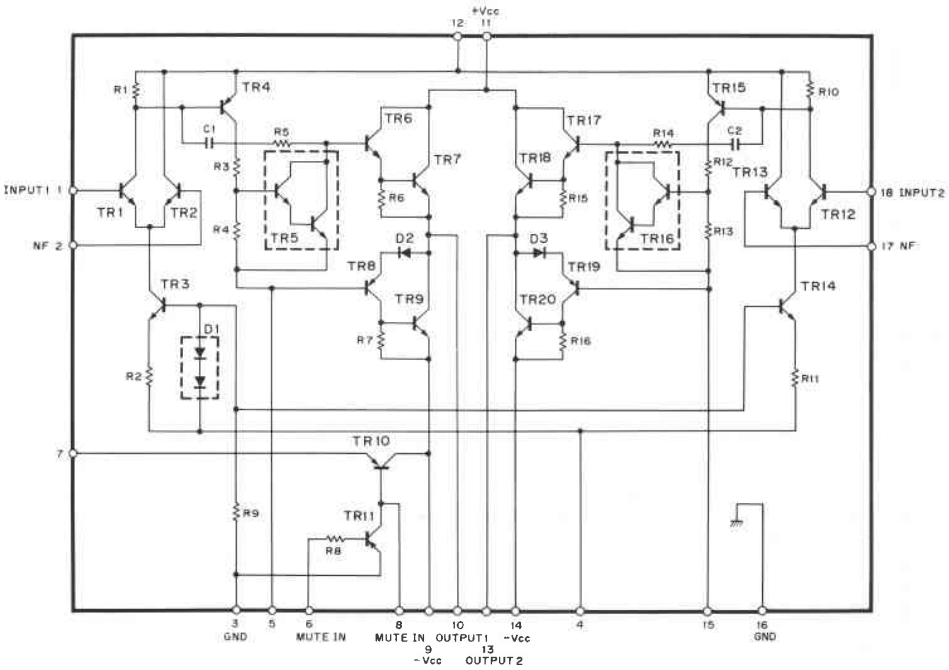
IC 703 : STK4151 II / STK4161 II
POWER AMP.





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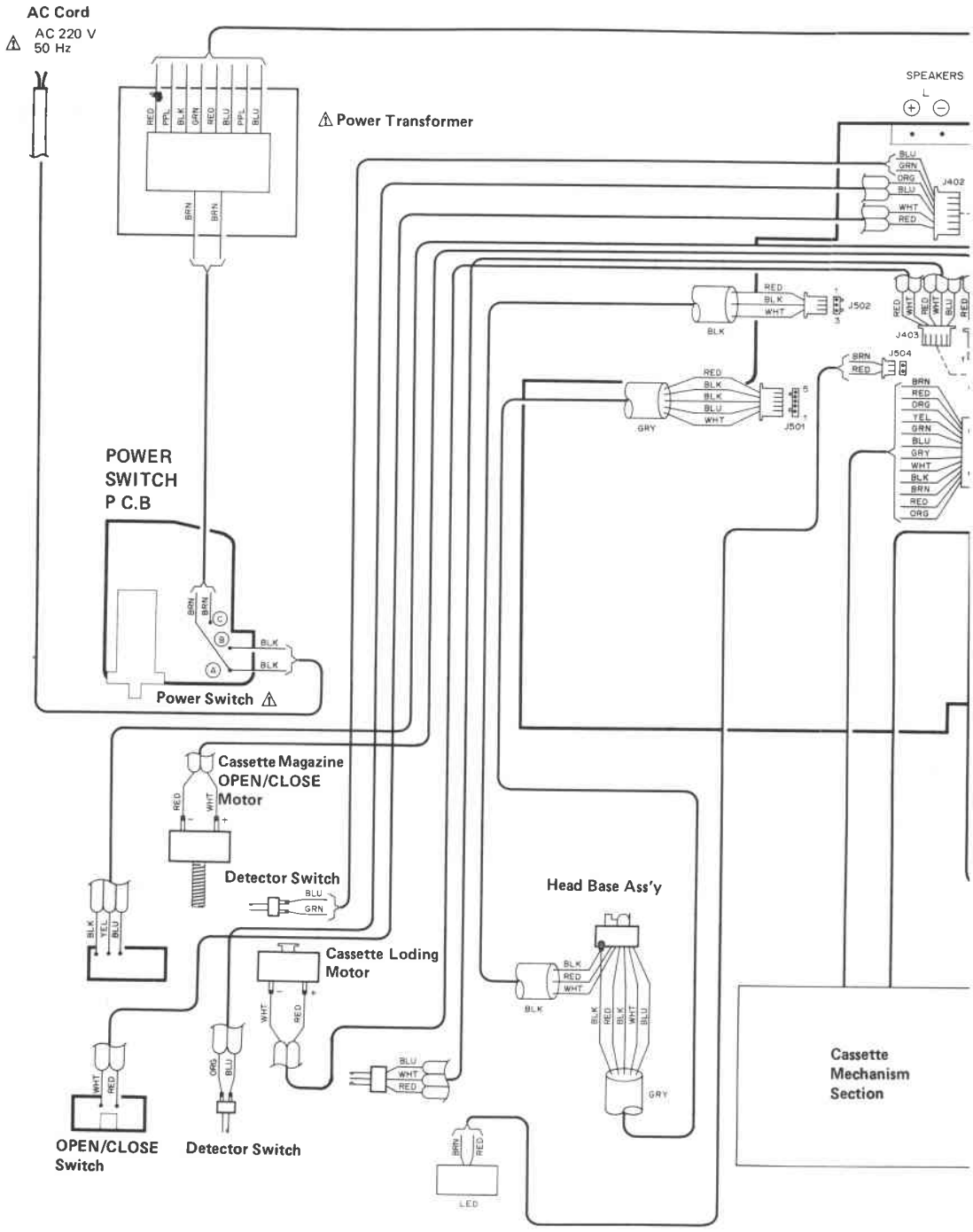
WIRING DIAGRAM



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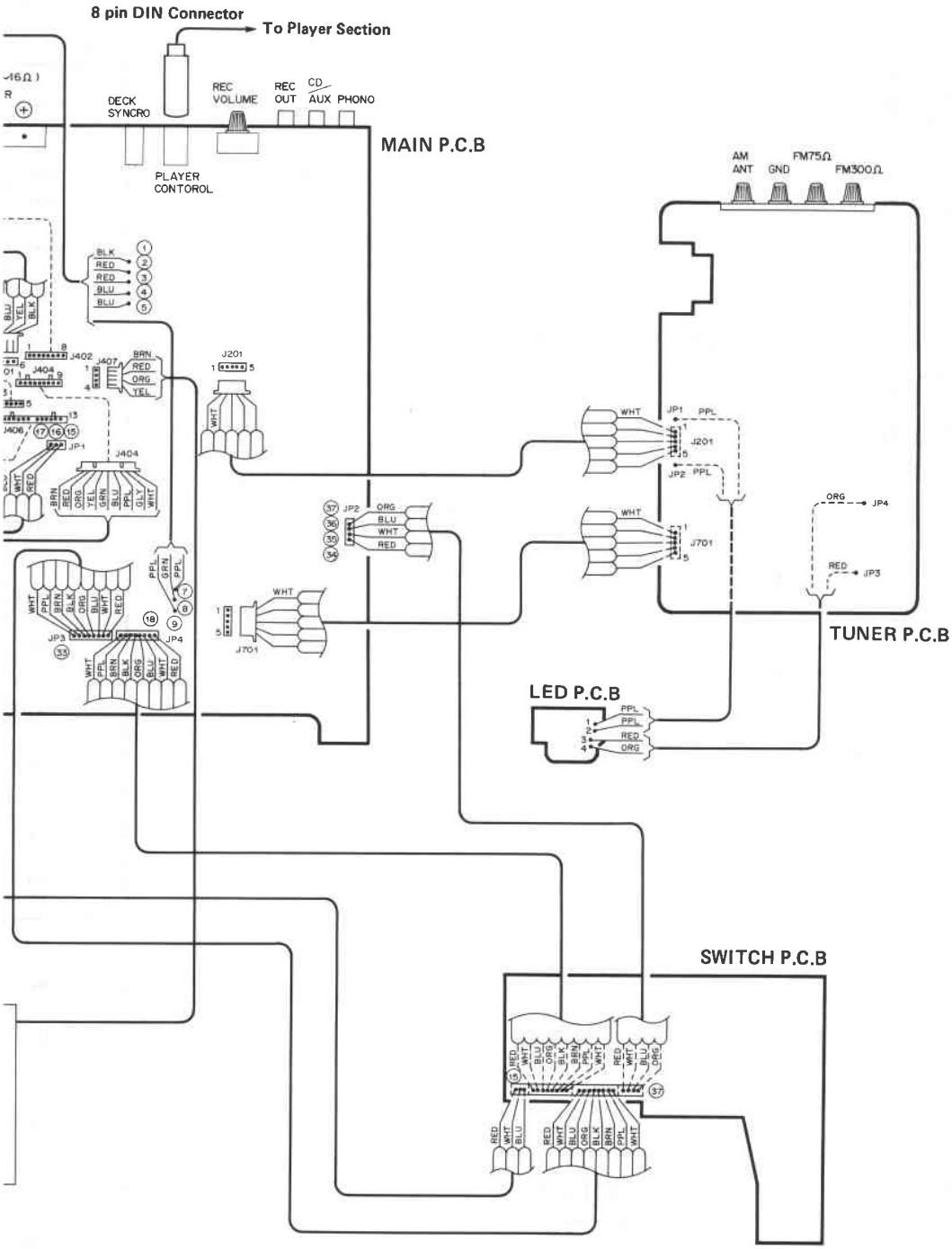

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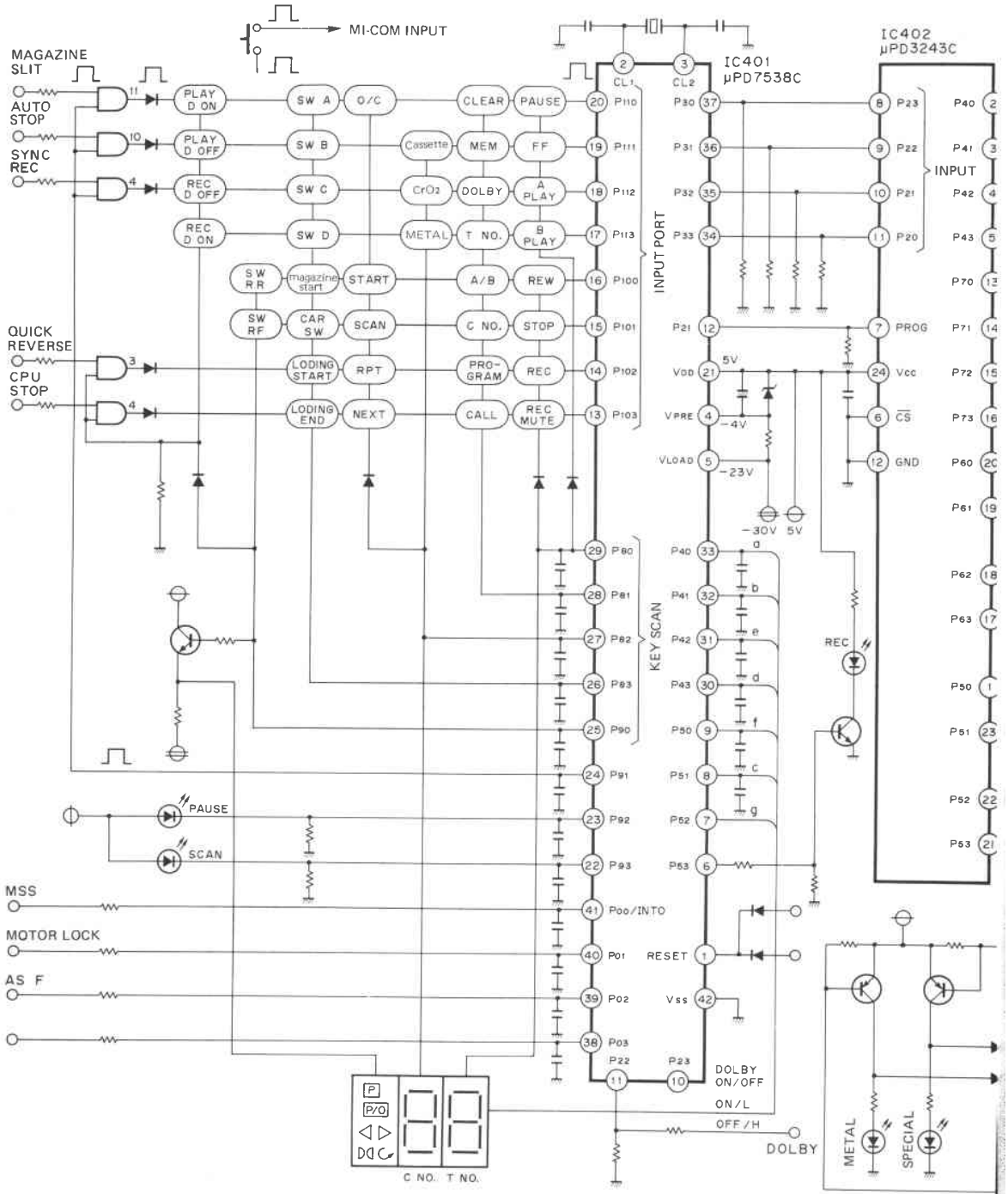
BLOCK DIAGRAM



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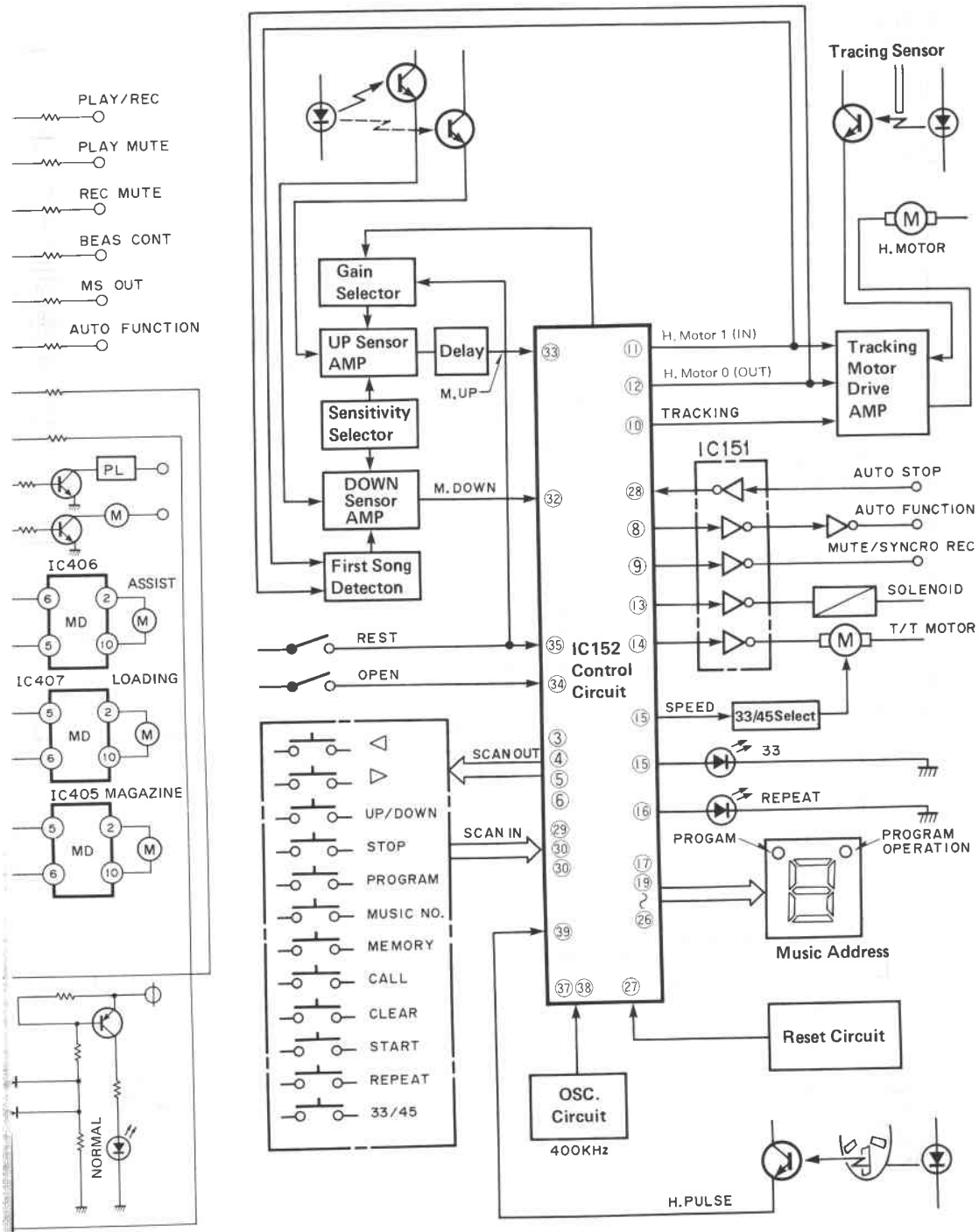

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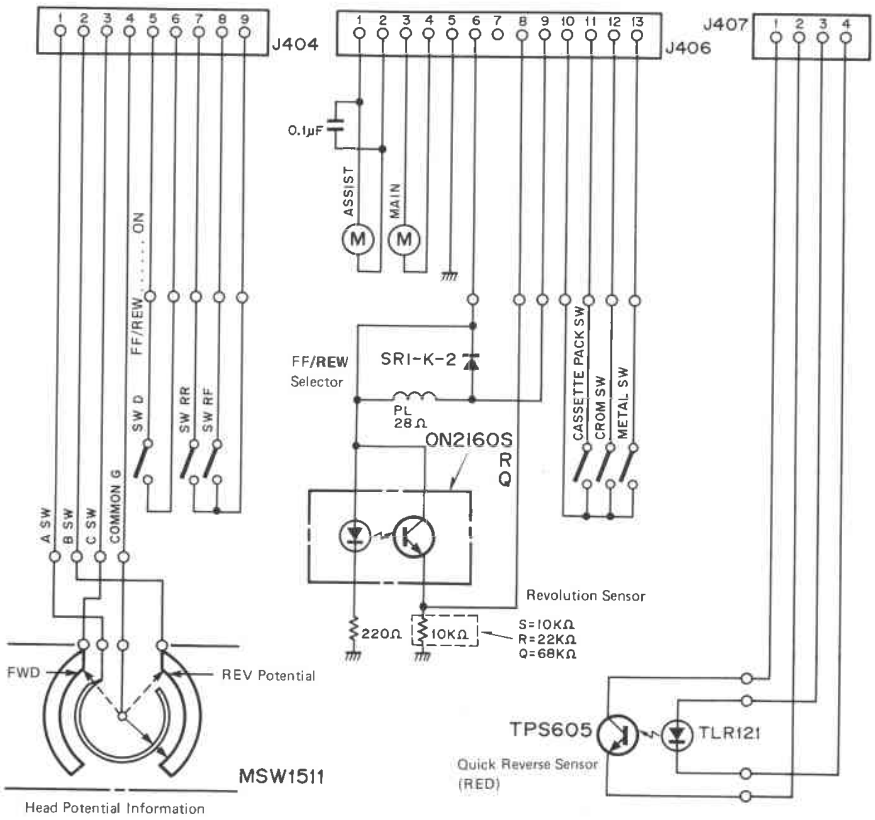
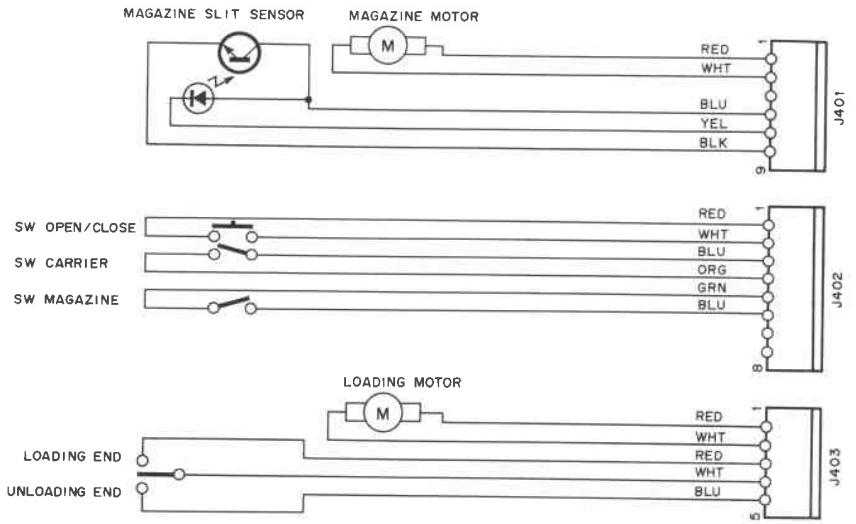
CONECTION WIRING DIAGRAM OF MECHANISM





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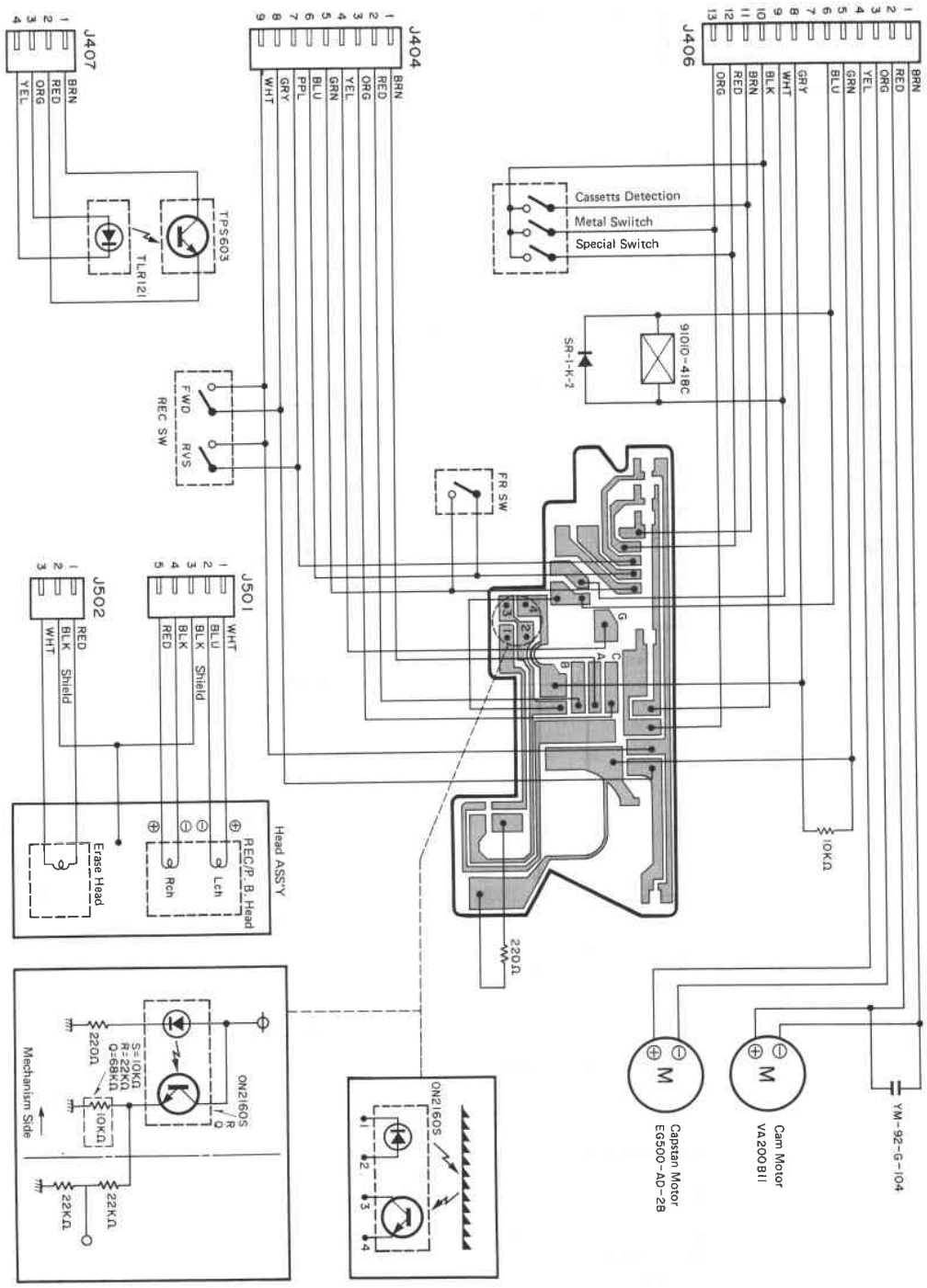
MECHANISM WIRING DIAGRAM



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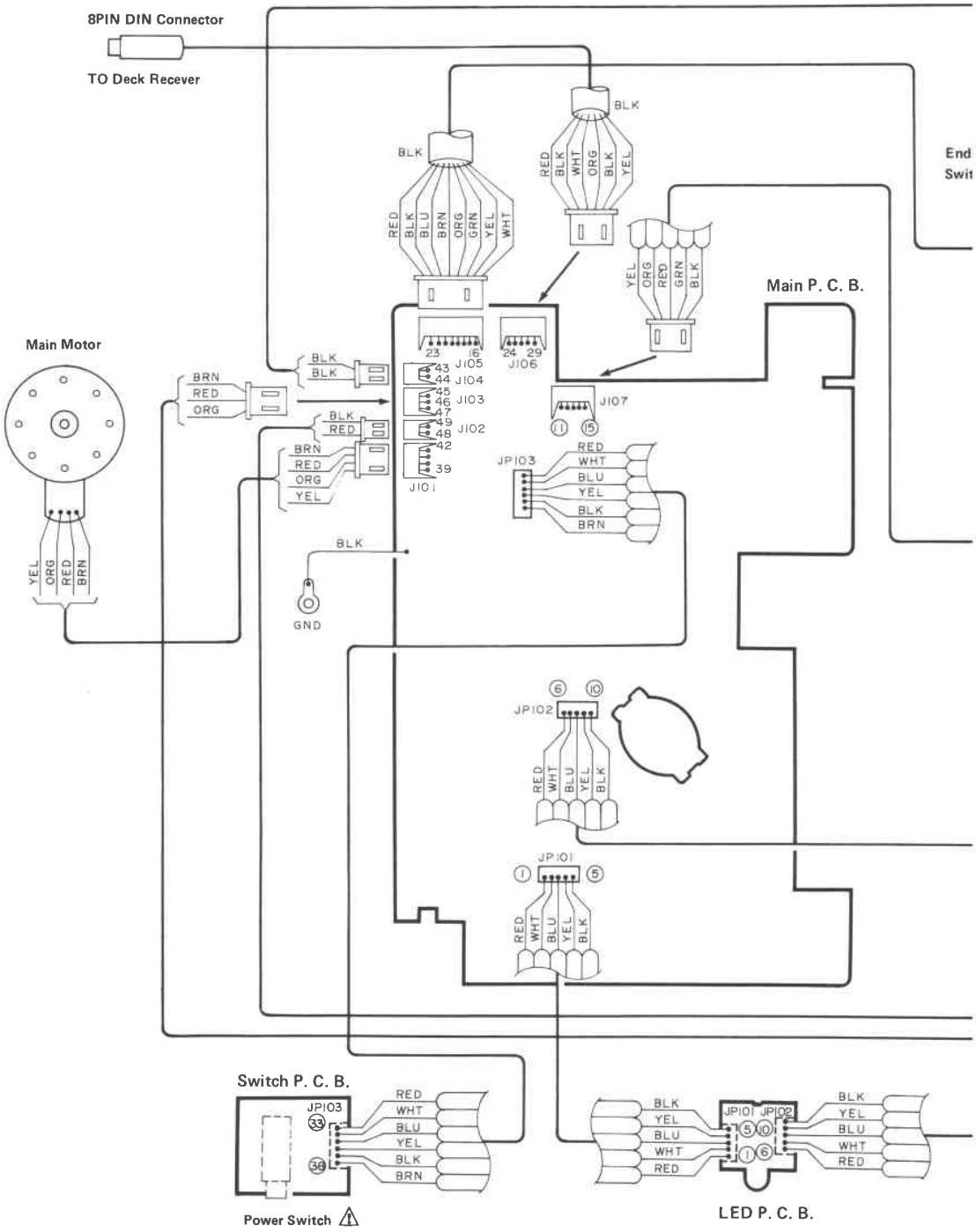

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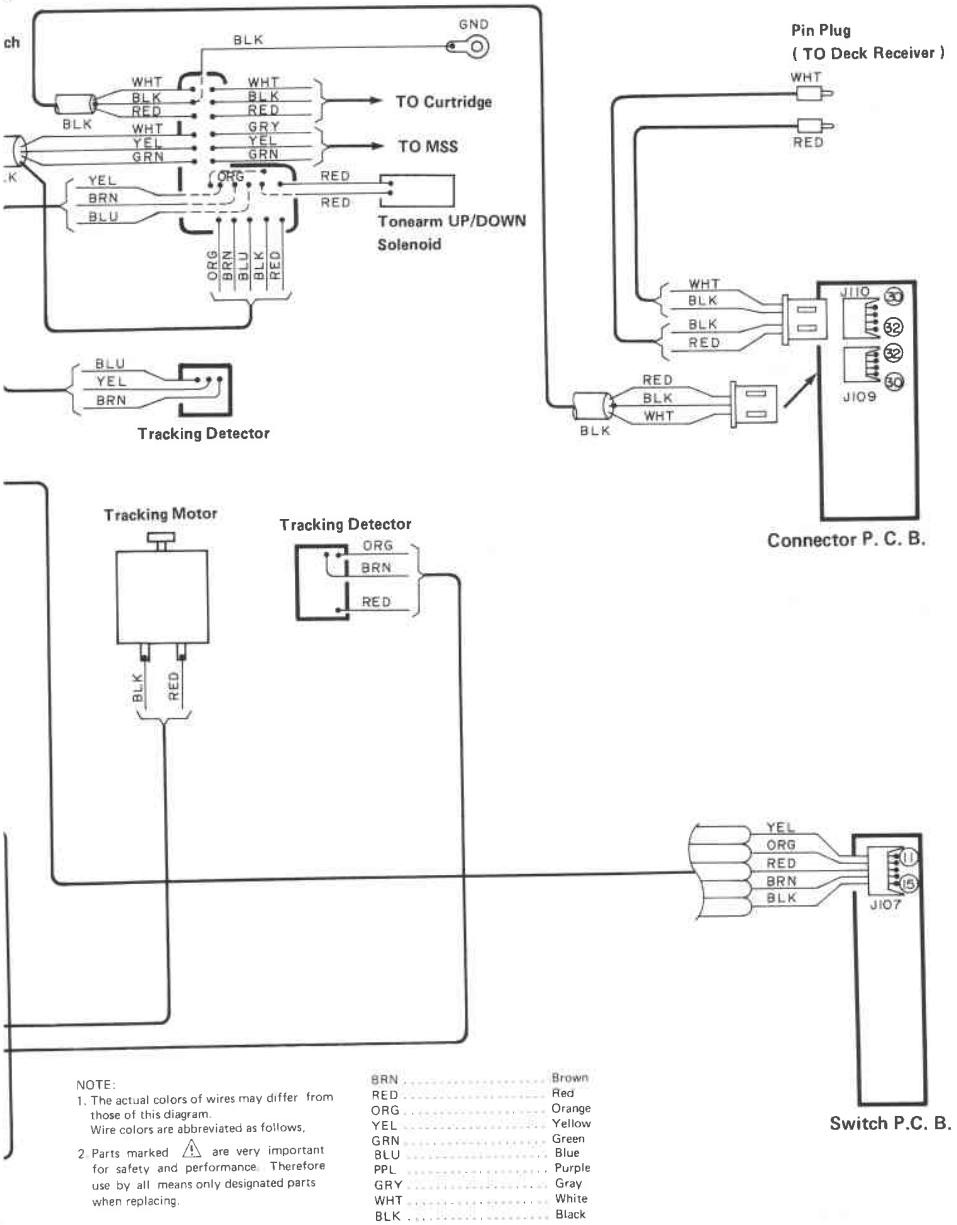

NOTE:

1. The actual colors of wires may differ from those of this diagram.
   Wire colors are abbreviated as follows,
2. Parts marked ⚠ are very important for safety and performance. Therefore use by all means only designated parts when replacing.

BRN	Brown
RED	Red
ORG	Orange
YEL	Yellow
GRN	Green
BLU	Blue
PPL	Purple
GRY	Gray
WHT	White
BLK	Black

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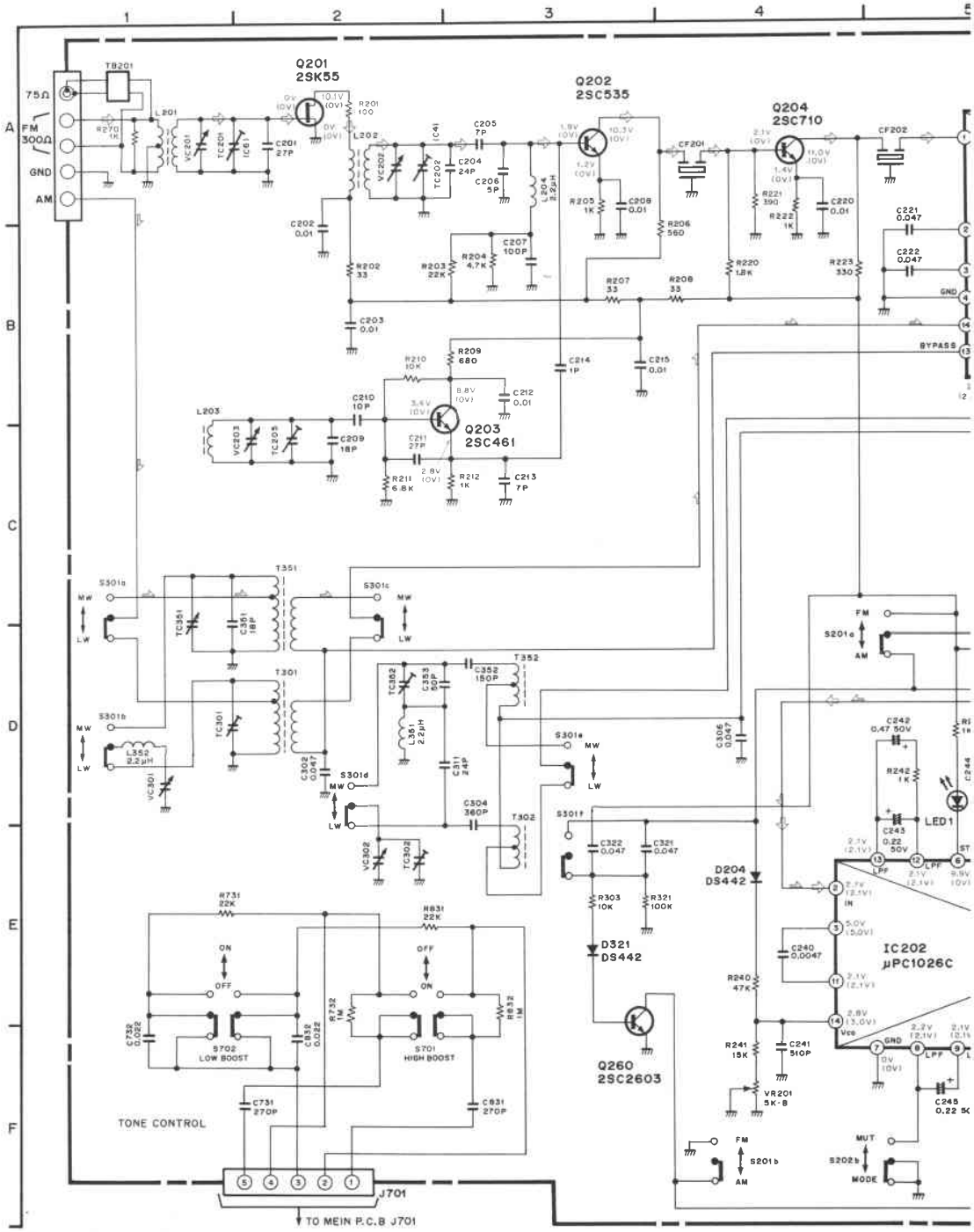

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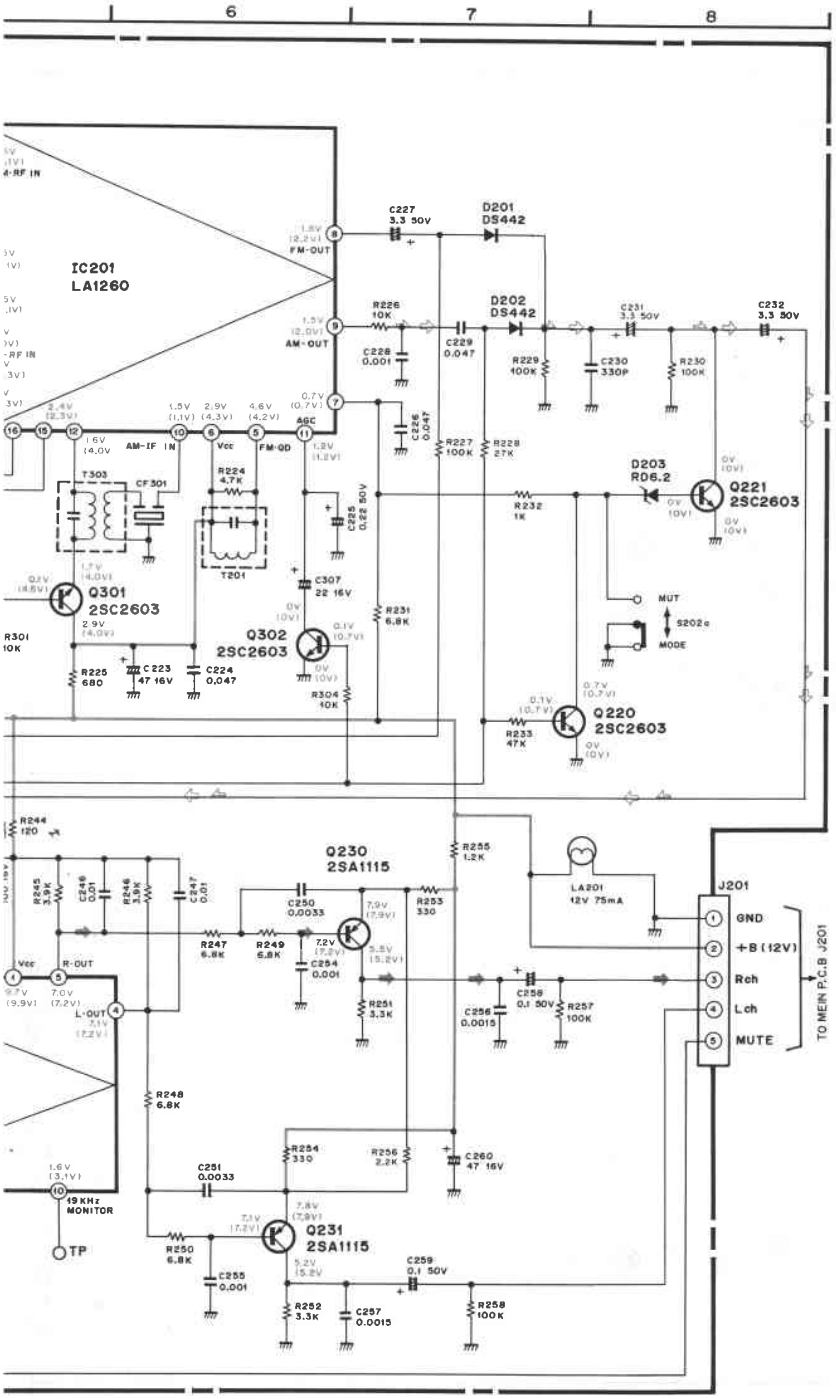

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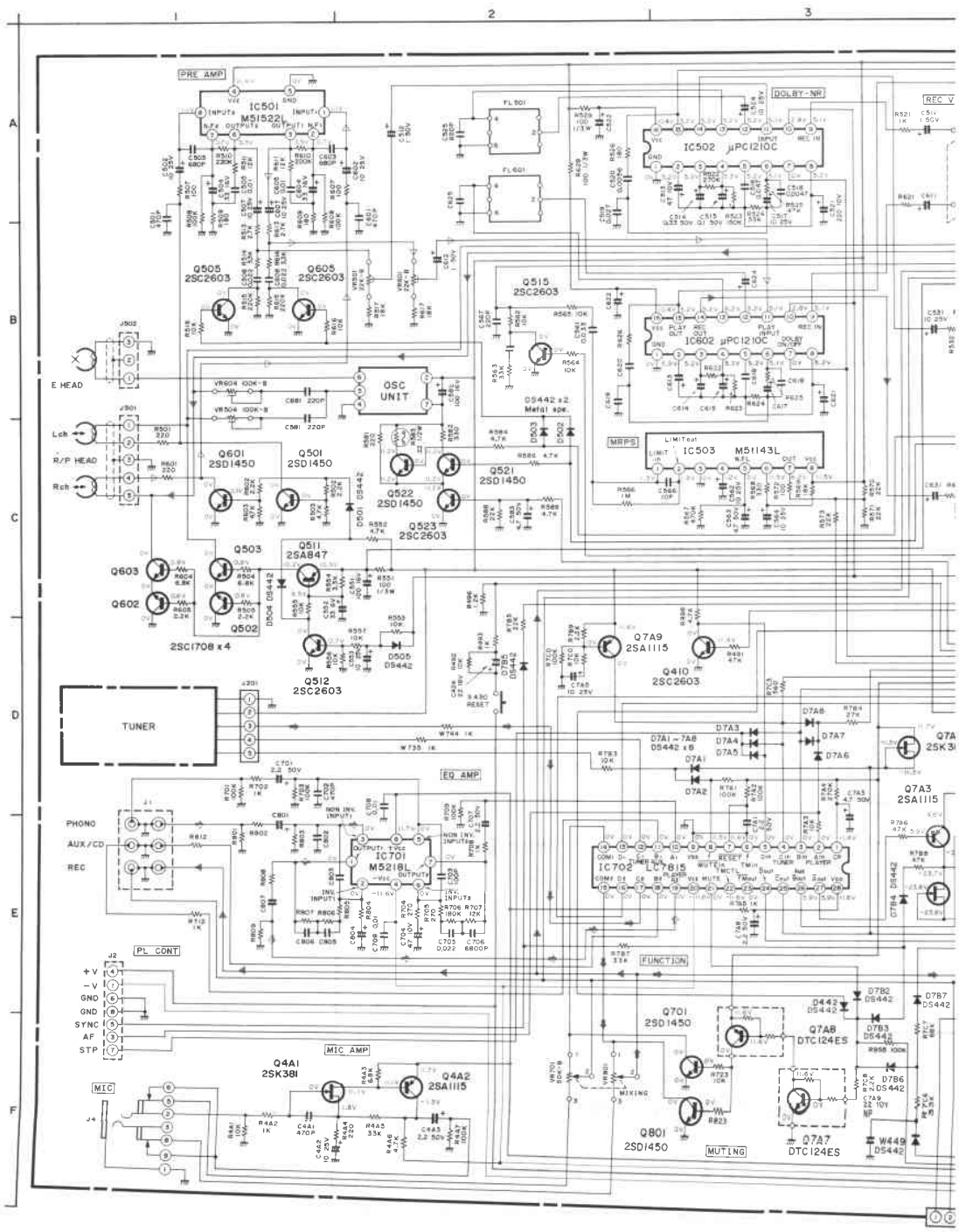

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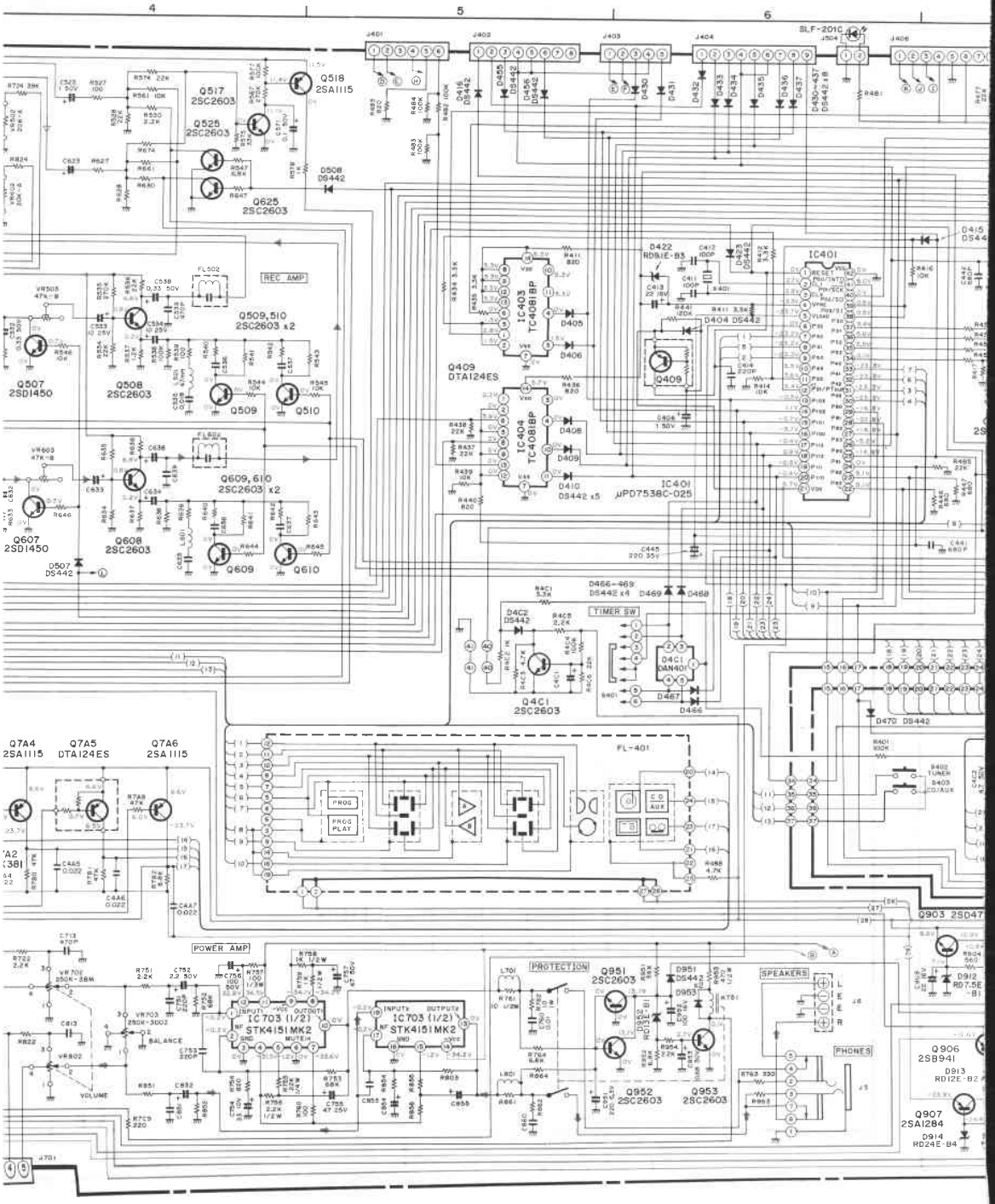

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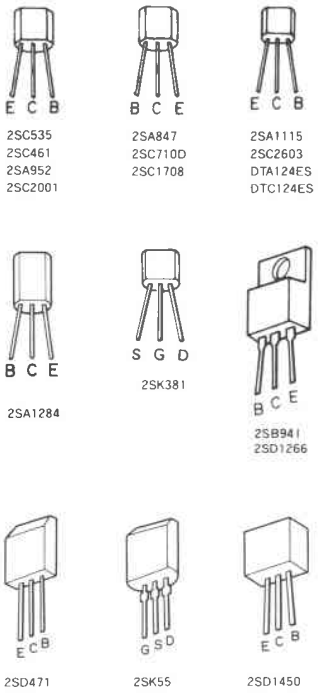
SCHEMATIC DIAGRAM

CIRCUIT DIAGRAM NOTES

1. Units of capacitor and resistors
   * Capacitors: No symbol = uF/voltage resistance
     P marking = pF
     Undesignated capacitors have a voltage resistance of 50V.
   * Resistors: No symbol = ohms
     K marking = kohms
     M marking = Mohms

   Undesignated resistors are 1/6W – J rank.
2. The voltage marking is that measured with a 1 Mohm digital voltmeter.
   * Tuner section: During FM and AM tuning.
     ( ) indicates AM.
   * Record player section: When stopped.
   * Main section: When stopped.
     For IC702, however, unmarked indicates tuner, and ( ) indicates tape deck and record player.
3. **Parts marked with ⚠ and ▒ are extremely important for safety and the maintenance of performance. Be sure to replace them only with the designated proper replacement parts.**
4. **This circuit diagram is only the basic schematic, and therefore the constants may change depending on later modifications carried out in the circuity.**
5. The direction of the signal flow in each section is as indicated below.
   FM signal . . . . . ⇨
   AM signal . . . . . ⇦
   Record player signal . . . . . ➡
   Audio signal . . . . . ➡
   Recorded signal . . . . . ▶
   Playback signal . . . . . ▷



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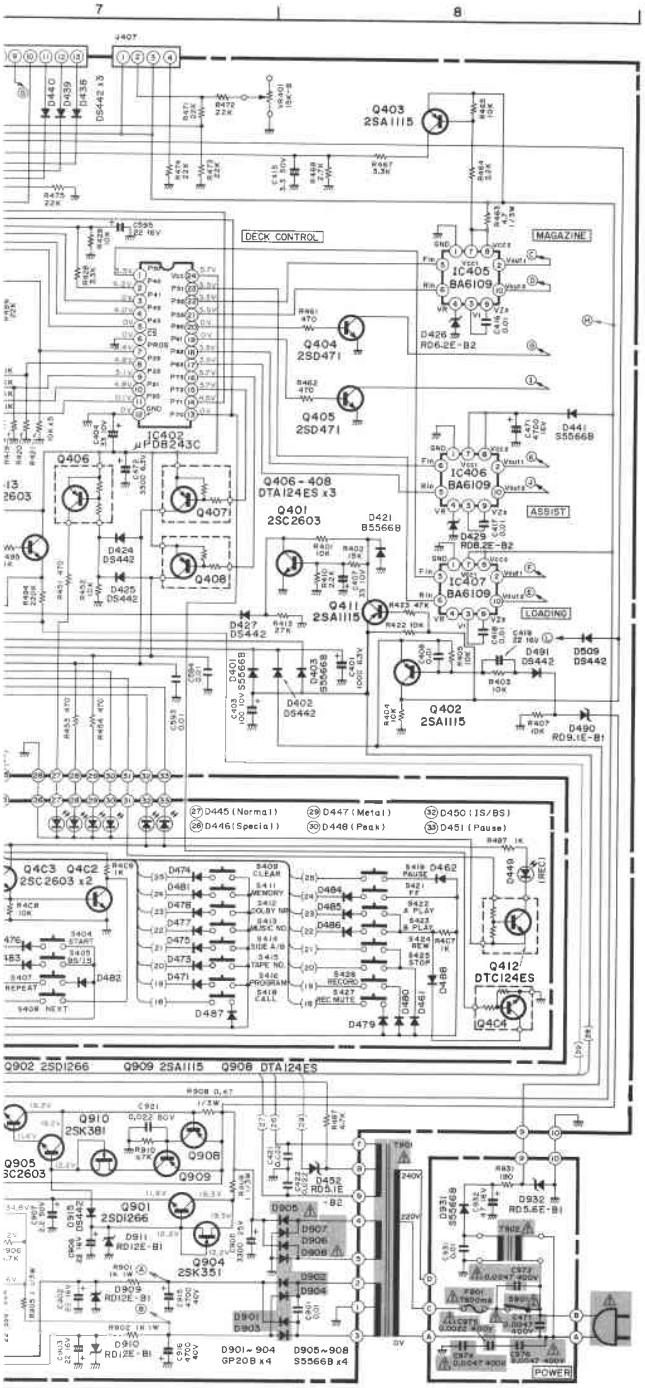

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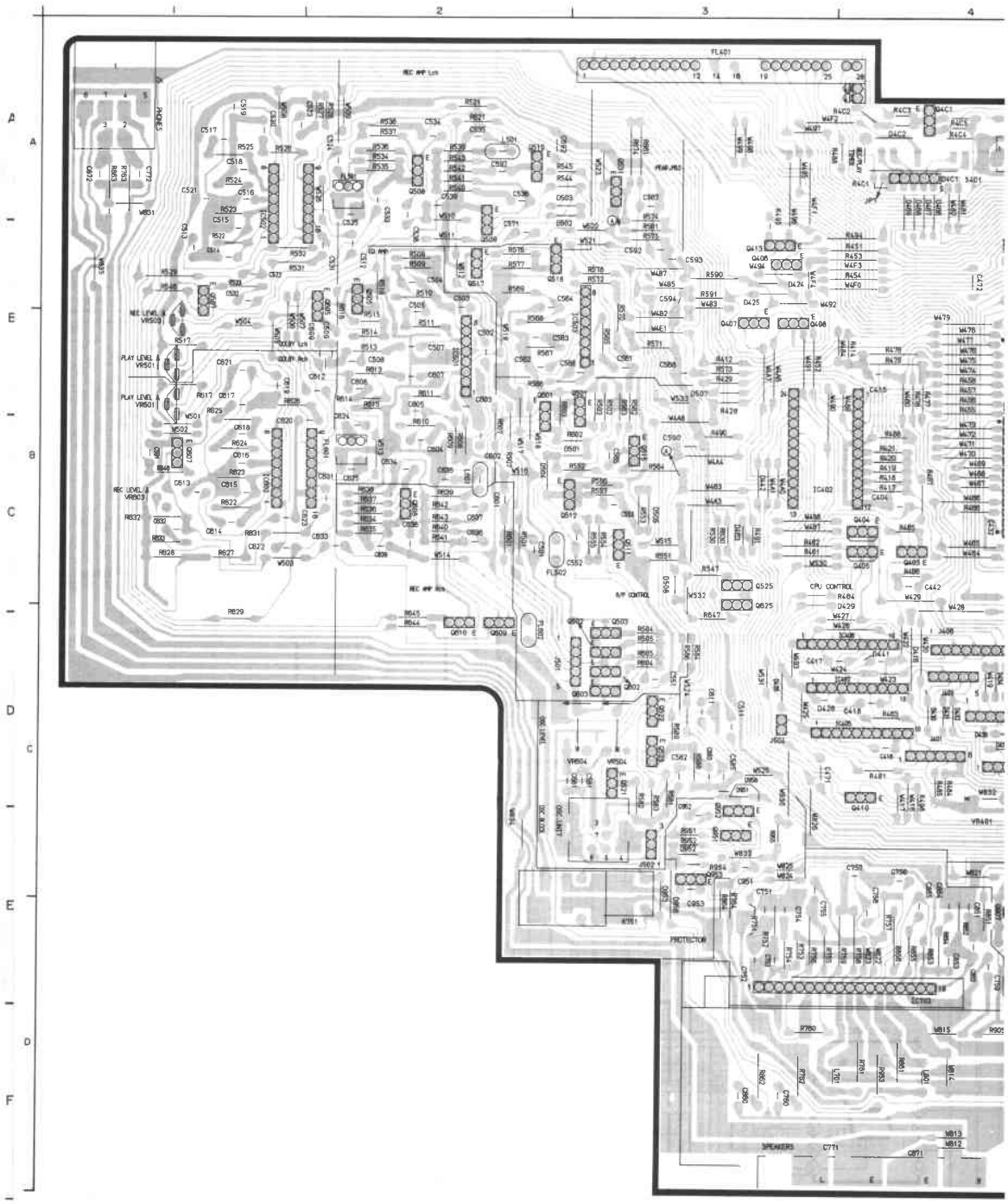
PRINTED CIRCUIT BOADS



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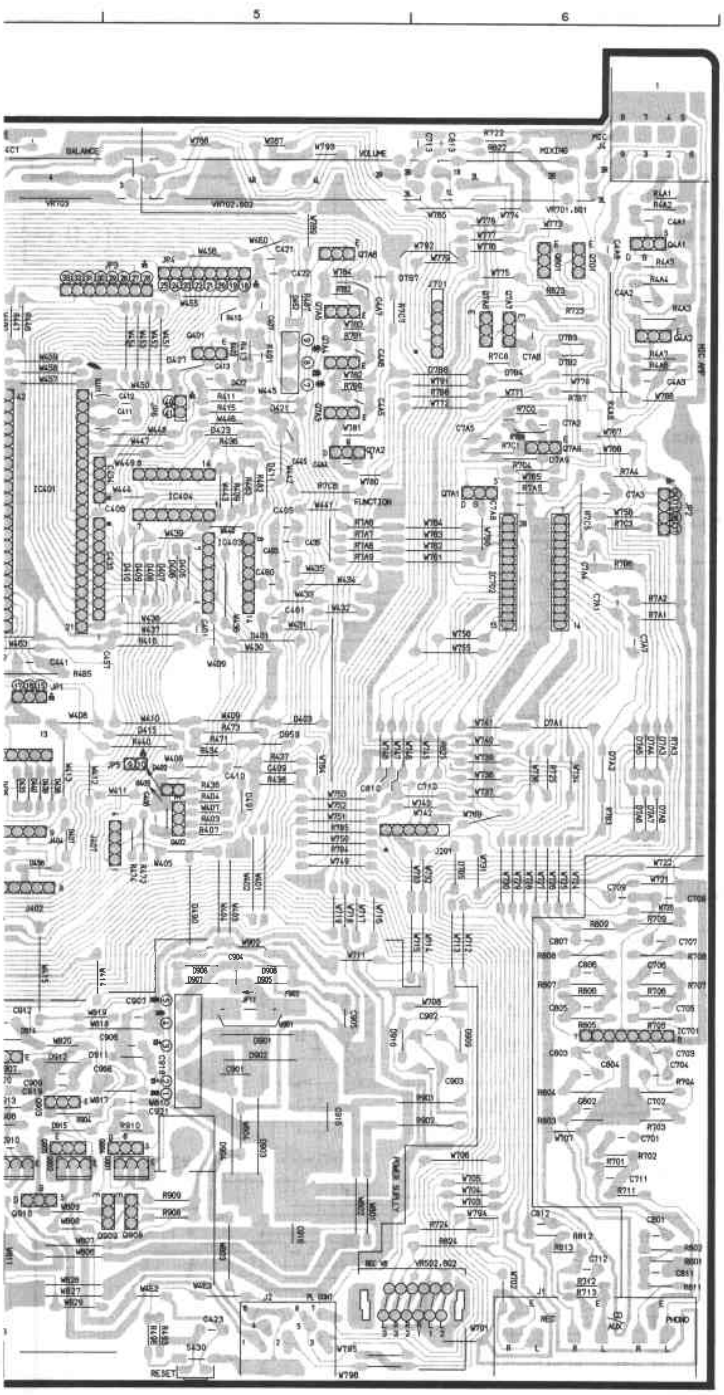

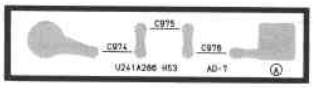

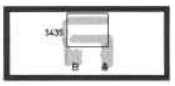

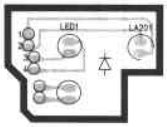

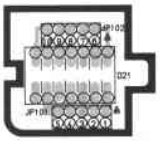

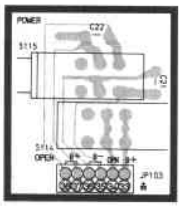

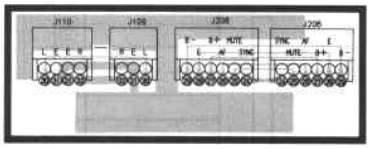

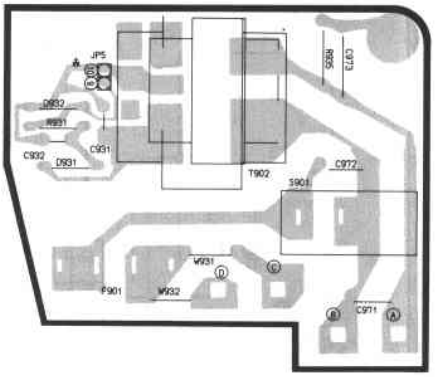

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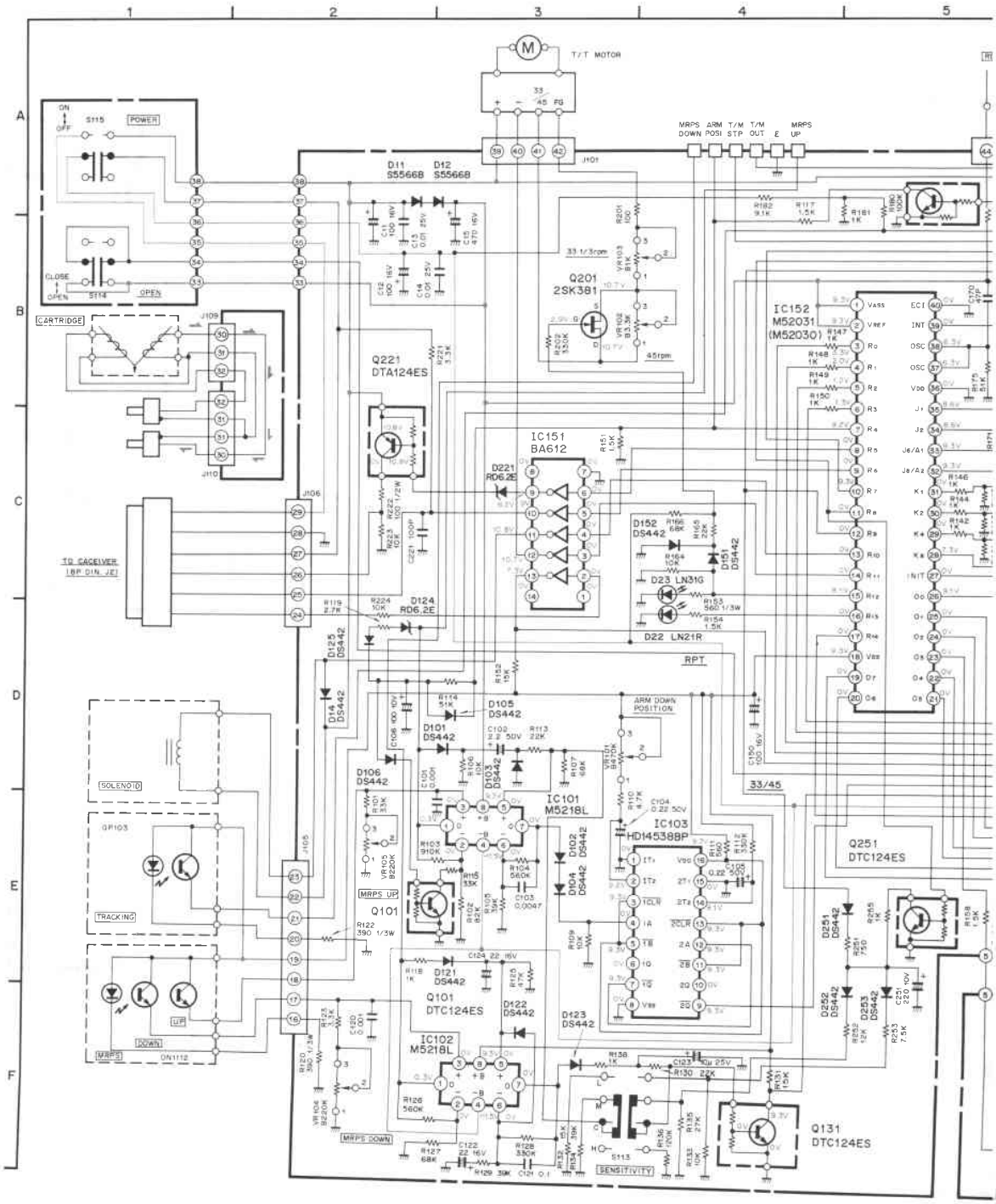

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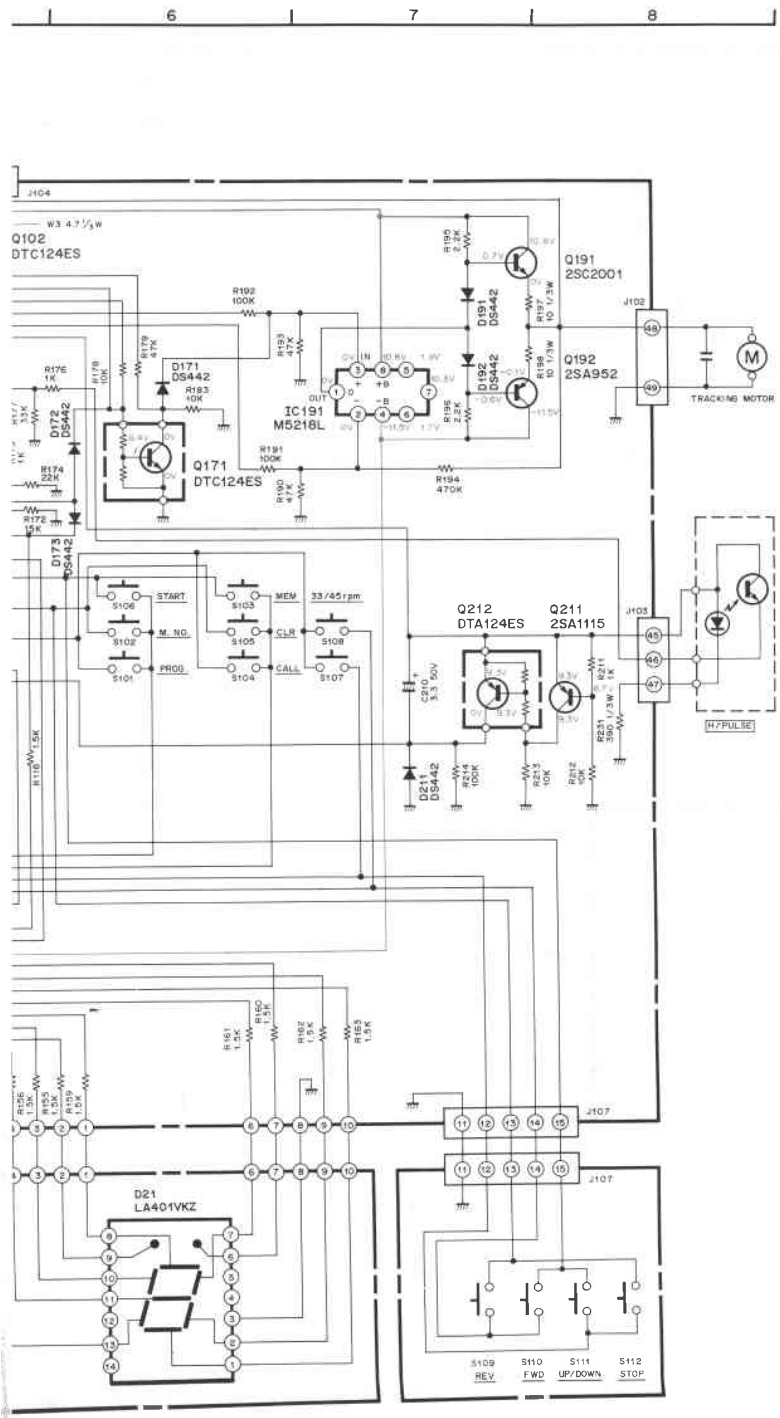

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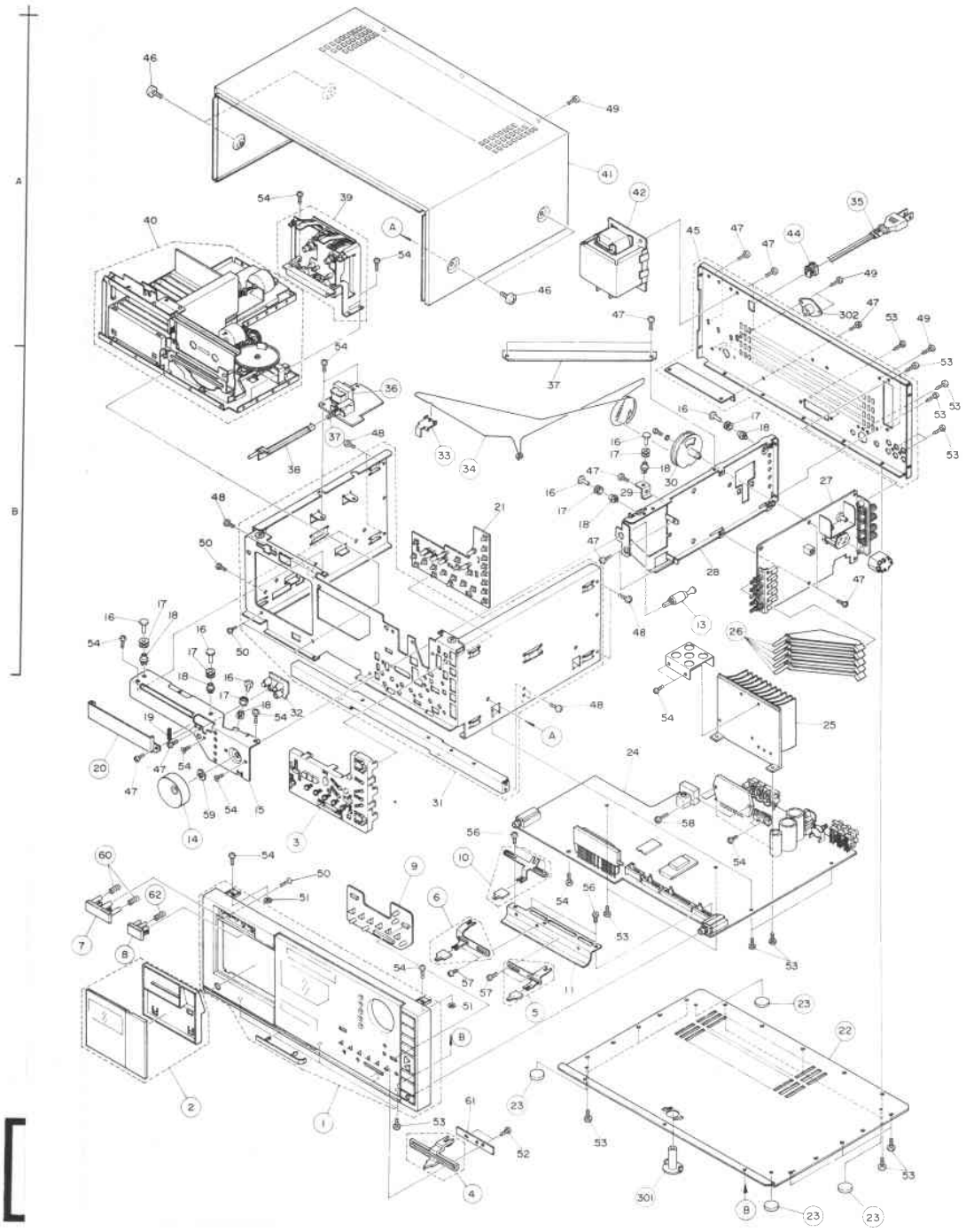
EXPLODED VIEW OF CABINET (DECK-RECIVER)



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PARTS LIST (DECK-RECEIVER)

Symbol-No.	Parts-No.	Description
1		FRONT CABINET ASS'Y
2	M04201136	COVER ASS'Y
3	M04200657	HOLDR (FOR SWITCH)
4	M04201202	KNOB (VOLUME)
5	M04201205	KNOB ASS'Y (MIC MIX)
6	M04201204	KNOB ASS'Y (BALANCE)
7	M04200201	KNOB (POWER)
8	M04201209	KNOB (OPEN/CLOSE)
9	M04201200	KNOB (DECK CONTROL)
10	M04201203	KNOB ASS'Y (TIMER)
11		HOLDER
13	M04200675	TUNING SHAFT
14	M04200204	KNOB ASS'Y (TUNING)
15		CHASSIS
16		PULLEY POST
17		PULLEY
18		PULLEY RIVET
19		SHADE
20		DIAL
21		SW-PC.B
22		BASE
23	M04200190	LEG
24		MAIN PC.B
25		PADIATOR
26	M04200208	KNOB (MUTE/MODE)
27		TUNER PC.B
28		TUNER PC.B BASE
29		HOLDER
30		PULLEY (TUNING)
31		CHASSIS ASS'Y
32		LED PC.B
33	M04200250	POINTER
34	M07454061	DIAL CORD
35	M04167440	POWER CORD ⚠
36	M04203500	TRANS POWER (BACK UP) ⚠
37	M04176355	SW-PUSH (POWER) ⚠
38		RELAY ROD
39		CASSETTE DECK ASS'Y
40		CASSETTE DECK MECHANISM ASS'Y
41		CASE
42	M04202501	TRANS POWER ⚠
44	M07602060	CLAMPER
45		REAR PANEL ASS'Y
46		SCREW 2-4x6
47		SCREW M3x6
48		SCREW M3x6 (BLACK)
49		SCREW 2-3x8 (BLACK)
50		FLAT HERD SCREW 2-3x6
51		WASHER
52		SCREW 1-2.6x8
53		SCREW 1-3x8 (BLACK)
54		SCREW 2-3x6 (BLACK)
55		SCREW 1-3x6
56		SCREW M2x3
57		SPECIAL SCREW
58		SCREW 2-3x16
59		NUT
60	M04200761	SPRING-W (KNOB-POWER)
61		HOLDER
62	M04200760	SPRING-W (OPEN/CLOSE)
301	M04200655	HOLDER (TRANS PORT)

Symbol No.	Part No.	Description
302	M04200658	HOLDER (TRANS PORT)

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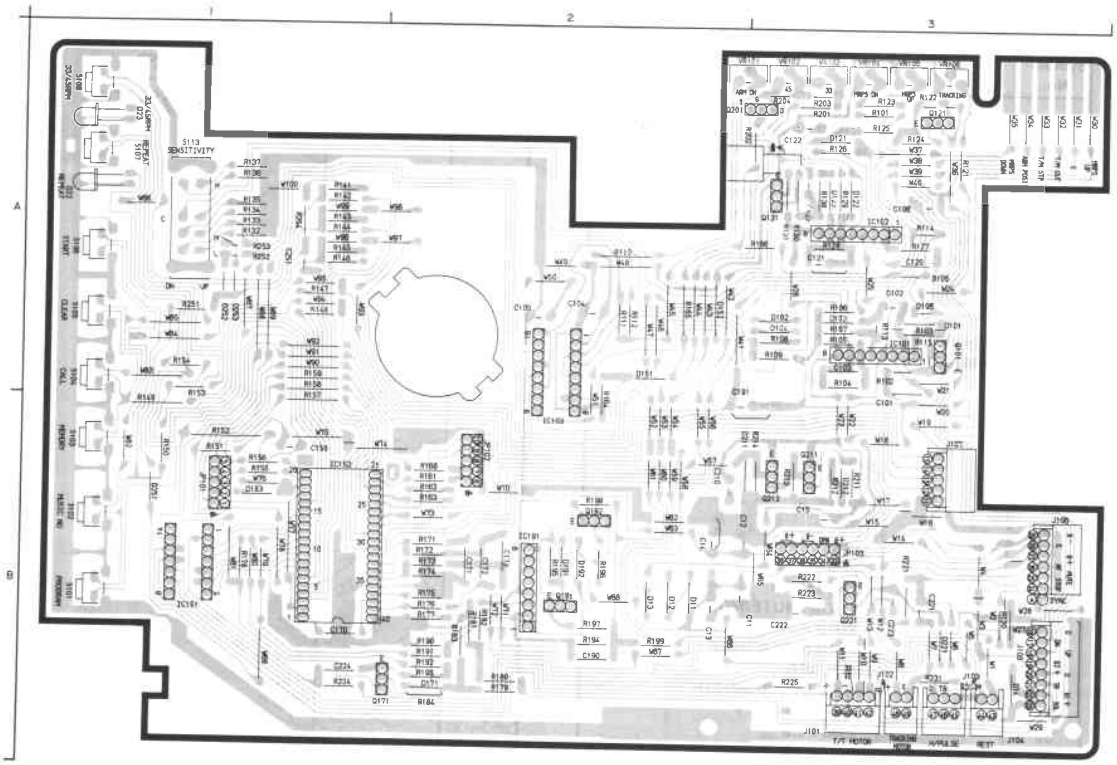

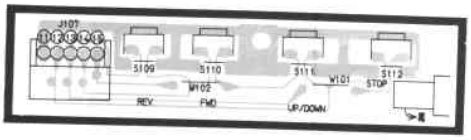

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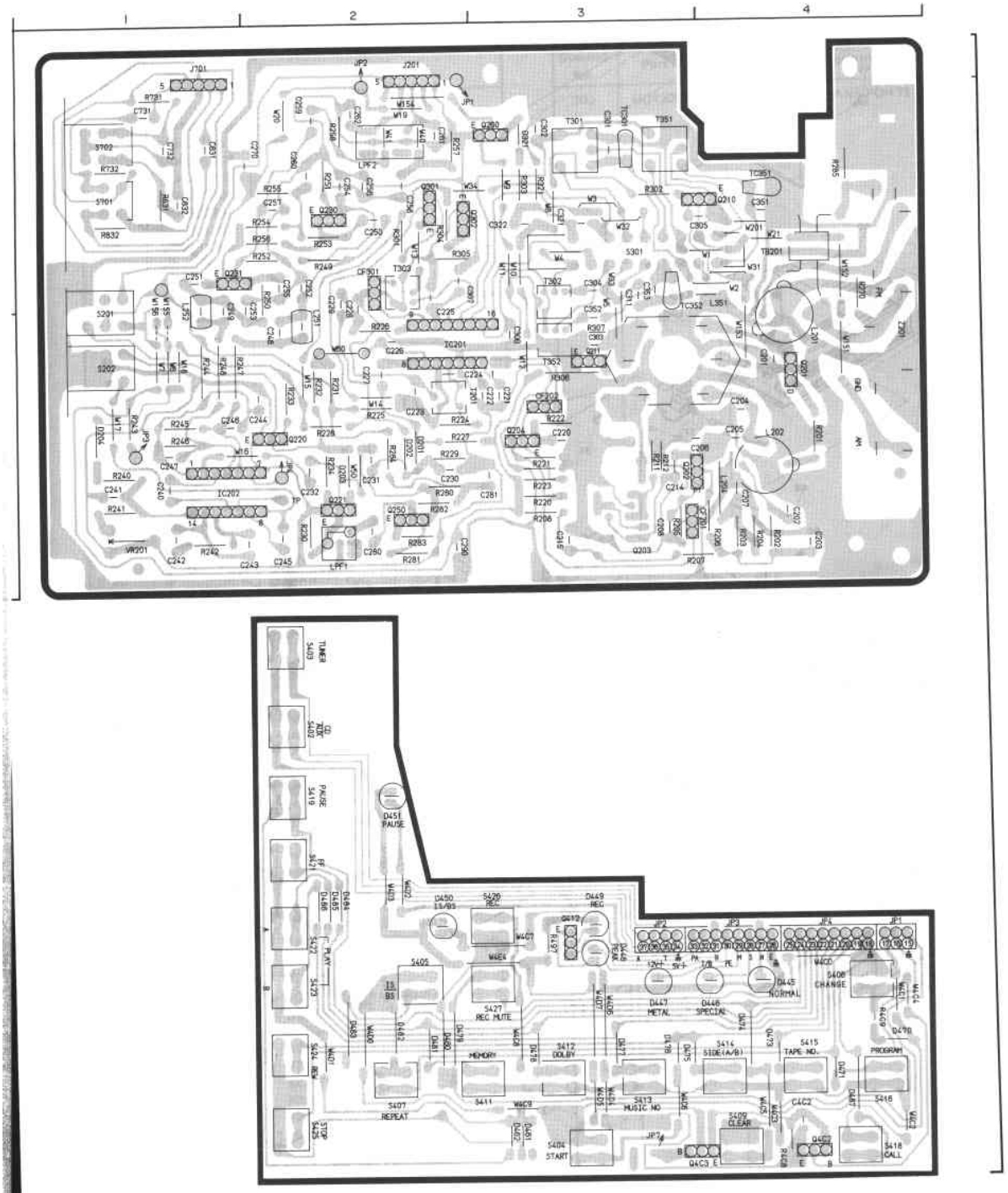

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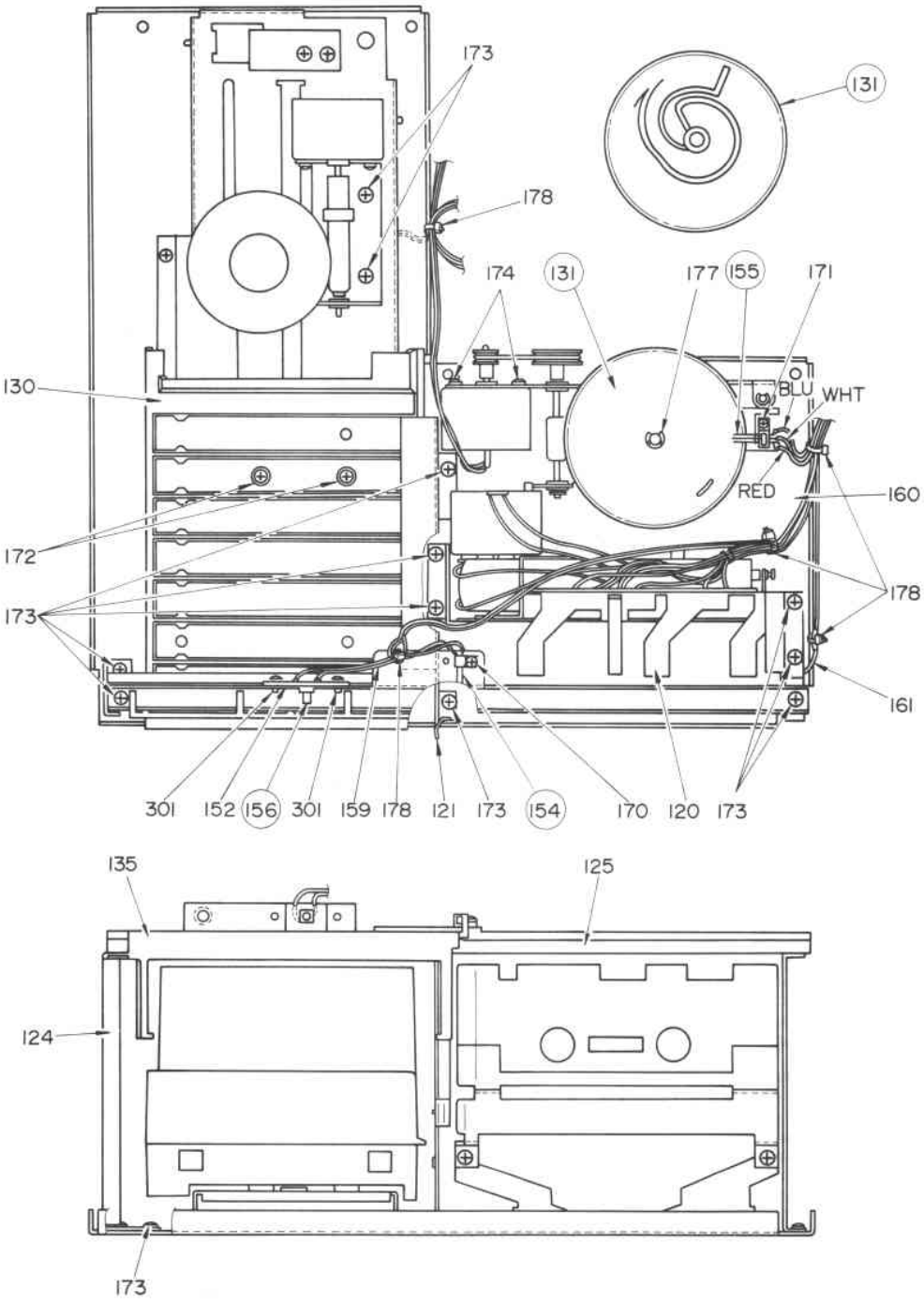
E: EXPLODED VIEW OF MECHANISM (TAPE LOADING)



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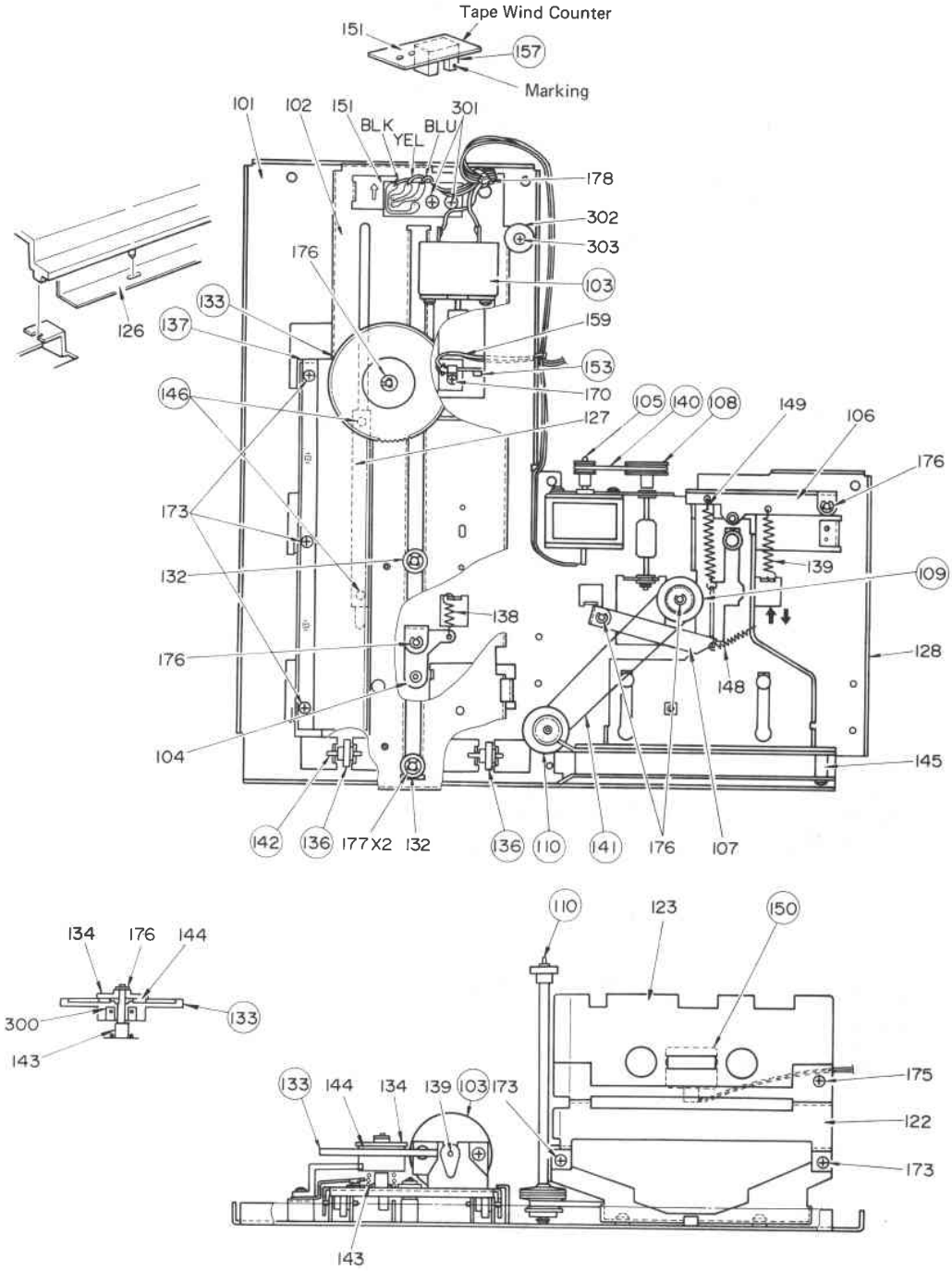

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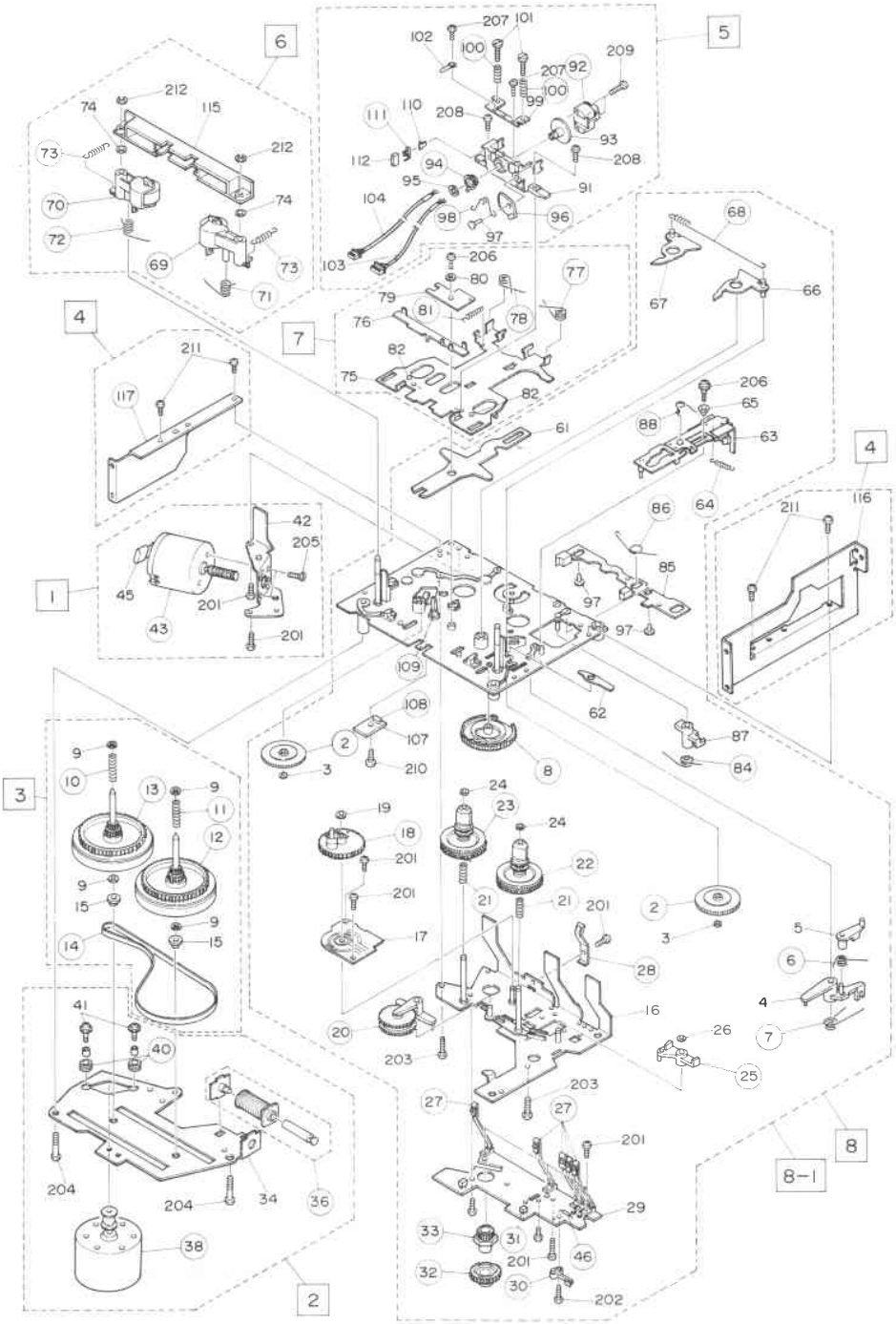
EXPLODED VIEW OF MECHANISM (CASSETTE DECK)



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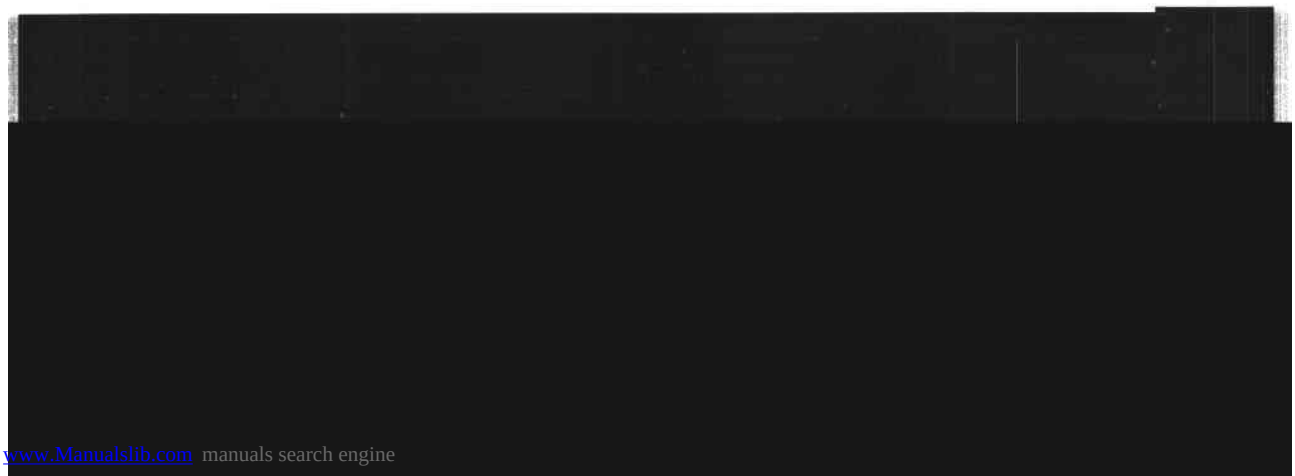
PARTS LIST (CASSETTE DECK)

Symbol No.	Parts No.	Description
1		**ASSIST MOTOR ASS'Y**
42		ANGLE (MOTOR)
43	M04200556	MOTOR ASS'Y
45		CAPACITANCE
201		DT SCREW
205		SCREW (MOTOR)
2		**BASE (MOTOR)**
34		PLATE (MOTOR)
36	M04200531	PLUGNER ASS'Y
38	M04200554	MOTOR ASS'Y
40		CUSHION (MOTOR)
41		SCREW (MOTOR)
204		SCREW
3		**FLYWHEEL ASS'Y**
9		WASHER
10	M04200765	C-SPRING
11	M04200766	C-SPRING
12		FLYWHEEL ASS'Y A
13		FLYWHEEL ASS'Y B
14	M04200717	BELT MEIN
15		METAL
4		**HOLDER ASS'Y**
116		HOLDER R
117		HOLDER L
211		DT SCREW
5		**HEAD STAND ASS'Y**
91		HEAD STAND
92	M04200520	R/P/E HEAD
93		HOLDER
94	M04200744	GEAR A
95		WASHER
96	M04200745	GEAR B
97		BOTH
98	M04200789	SPRING
99		PLAET (AZIMATH)
100	M04200790	C-SPRING
101		SCREW (HEAD AZIMATH ADJ.)
102		LUG
103		SHIEIDING WIRE
104		SHIEIDING WIRE
110		LIGHT TUBE
111	M04200307	TR-TPS605
112		BOTH
207		SCREW
208		SCREW
209		SCREW (HEAD)
6		**PINCH ROLLER ASS'Y**
69	M04200720	PINCH ROLLER ARM ASS'Y-R
70	M04200721	PINCH ROLLER ARM ASS'Y-L
71	M04200780	SPRING
72	M04200781	SPRING
73	M04200782	SPRING
74		WASHER
115		GUIDE (CASSETTE)
212		E-RING

Symbol No.	Parts No.	Description
7		**HEAD BASE ASS'Y**
75		HEAD BASE
76		HEAD SLIDER
77	M04200783	SPRING
78	M04200784	SPRING
79		PLATE (HOLDER)
80		WASHER
81	M04200785	T-SPRING
82		BOTH
206		SCREW
8		**GEAR ASS'Y**
8.1		**REEL RESY ASS'Y**
1		CHASSIS ASS'Y
2	M04200739	GEAR A
3		WASHER
4		TRIGGER ARM
5		TRIGGER ARM B
6	M04200763	SPRING
7	M04200764	SPRING
8	M04200740	CAM GEAR
16		REEL CHASSIS ASS'Y
17		PC. B-B
18	M04200741	ASSIST GEAR
19		WASHER
20	M04200634	TENSION ASS'Y
21	M04200767	C-SPRING
22	M04200703	F REEL ASS'Y
23	M04200704	R REEL ASS'Y
24		WASHER
25	M04200607	F/R ARM
26		WASHER
27	M04200396	REC SWITCH
28	M04200656	CASSETTE HOLDER
29		PC. B-A
30	M04200376	SW-LEAF
31	M04200306	PHOTO SENSER
32	M04200742	GEAR H
33	M04200743	GEAR G
46	M04200326	DIODE SR-1-K-2
61		REVERSE ARM
62		CUE ARM
63		F/R LEVER
64	M04200768	C-SPRING
65		COLLER
66		ARM A ASS'Y R
67		ARM A ASS'Y L
68	M04500769	T-SPRING
84	M04200786	SPRING
85		BLACK PLATE ASS'Y
86	M04200787	SPRING
87		TIMING ARM
88	M04200788	SPRING
107		P-BOARD
108	M04200327	LE. DIODE TLR-121
109		LIGHT TIBE A
201		SCREW
202		SCREW
203		SCREW
206		SCREW
210		SCREW



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PARTS LIST (TAPE LOADING)

Symbol No.	Parts No.	Description
100		SPRING
101	M04200552	BASE-2 ASS'Y
102		BASE-1 ASS'Y
103	M04200551	MOTOR ASS'Y
104		LEVER ASS'Y-A
105	M04200552	MOTOR ASS'Y-2
106		LEVER ASS'Y
107		LEVER ASS'Y-C
108	M04200734	GEAR ASS'Y-1
109	M04200735	GEAR ASS'Y-2
110	M04200736	GEAR ASS'Y-3
120		MECHANISM ASS'Y
121		HOLDER L (A)
122		HOLDER L (B)
123		LINK (B)
124		HOLDER U (B)
125		HOLDER U (C)
126		SPRING
127		HOLDER (B)
128		SPRING
129		BEARING
130		HOLDER (C)
131	M04200731	GEAR (3)
132		COLLER (A)
133	M04200732	GEAR (2)
134		CAP (A)
135		LINK (A)
136	M04200632	PULLEY
137	M04200733	GEAR (6)
138		SPRING
139		SPRING
140	M04200714	BELT (1)
141	M04200715	BELT
142		SHAFT (C)
143		SPRING
144		WASHER (FELY)
145		COLLER
146	M07065786	STEEL BALL (5/32)
147		SPRING
148		SPRING
150	M05237320	LE.Diode SLF-201C
151		PC.B ASS'Y (CASSETTE COUNT)
152		PC.B ASS'Y (OPEN/CLOSE SW)
153	M05206390	SW-MICRO
154	M04184390	SW-Spring
155	M04200390	SW-Spring (LOADING)
156	M04200354	SW-Push (OPEN/CLOSE)
157	M04200303	PHOTO COUPLER
159		WIRE
160		WIRE
161		WIRE
170		Screw M2.6x5
171		Screw M2x5
172		Screw M2.6x16
173		Screw T2-3x8
174		Screw M2.6x3
175		METAL Screw
176		E-Ring (B)-2
177		E-Ring (C)-3
178		BAND
300		Washer (Plastic)
301		Screw M2.6x5

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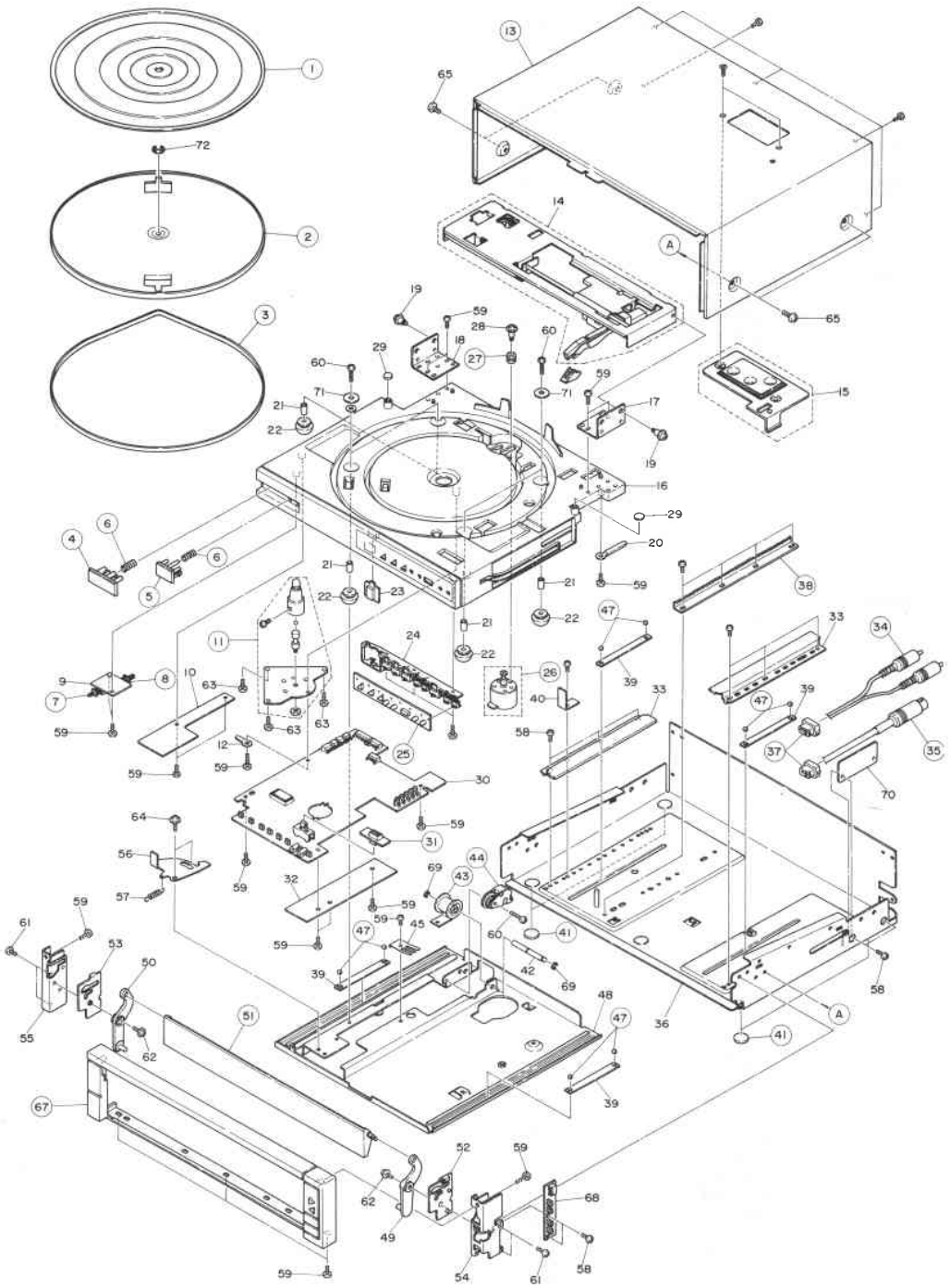
EXPLODED VIEW OF CABINET (RECORD PLAYER)



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PARTS LIST (RECORD PLAYER)

Symbol No.	Parts No.	Description
1	M04200622	TURNTABLE SEAT
2		PLATTER
3	M04200713	BELT
4	M04200201	KNOB (POWER)
5	M04201207	KNOB (OPEN)
6		SPRING
7	M04200397	SW-PUSH (POWER)
8	M04200359	SW-PUSH (OPEN)
9		SW-PC.B
10		SPACER
11	M04200676	SHAFT ASS'Y
12		LUG TERMINAL
13		CASE ASS'Y
14		ARM CHASSIS ASS'Y
16		CABINET ASS'Y
17		HOLDER-R
18		HOLDER-L
19		SCREW
20		CLAMPER
21		METAL TUBE
22		CUSHION RUBBER
23		LED PC.B
24		KNOB ASS'Y
25	M04201208	KNOB-RUBBER
26	M04200550	MOTOR ASS'Y
27		CUSHION (MOTOR)
28		MOTOR SCREW
29		CUSHION RUBBER
30		MAIN PC.B
31	M04201210	KNOB-SLIDE (SENSITIVITY)
32		SPACER
33		SPRING
34	M04200495	LEAD
35	M04200496	DIN CORD
36		CASE ASS'Y
37	M07602060	CLAMPER
38	M04200730	GEAR
39		SPACER
40		
40		HOLDER
41	M04200190	LEG
42		SHAFT
43	M04200762	SPRING
44	M04200750	DAMPER
45		TERMINAL
47	M04200678	STEEL BALL-55562
48		CHASSIS
49		LINK-R
50		LINK-L
51		COVER
52		GUIDE-R
53		GUIDE-L
54		GUIDE-R
55		GUIDE-L
56		HOLDER-L
57		SPRING
58		SCREW 2-3x6
59		SCREW 2-3x10
60		SCREW 2-3x16
61		FLAT HEAD SCREW 2-3x6
62		SCREW 2-3x8
63		SCREW 2-3x14

Symbol No.	Parts No.	Description
64		SCREW 2-2.6x4
65		SCREW 2-4x6
66		WASHER
67		PANEL ASS'Y
68		SW-PC.B ASS'Y
69		E-RING 3
70		RELAY PC.B ASS'Y
71		WASHER
72		E-RING 6

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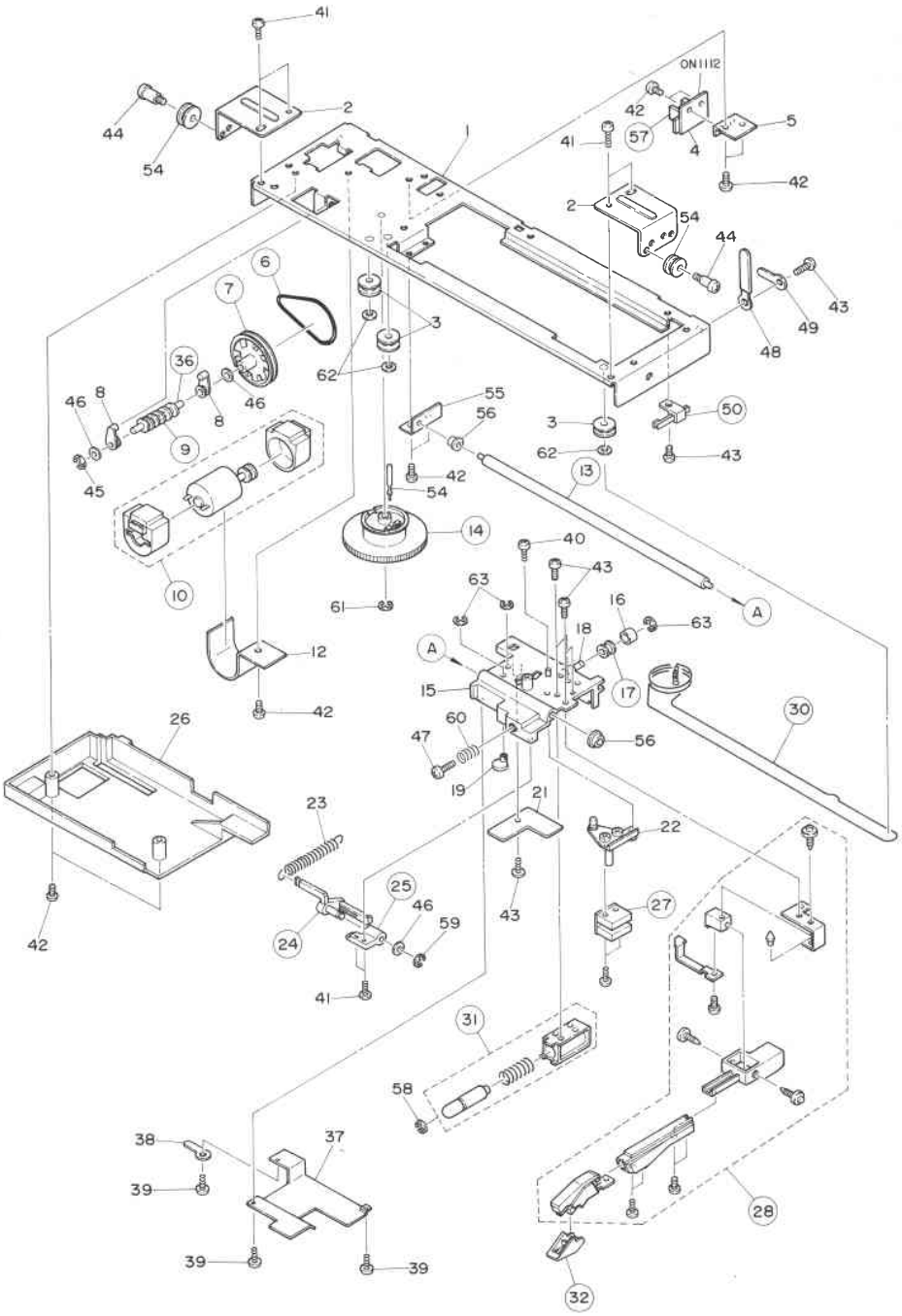
EXPLODED VIEW OF MECHANISM (TONEARM SECTION)



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PARTS LIST (TONEARM SECTION)

Symbol No.	Parts No.	Description
1		ARM CHASSIS
2		HOLDER L
3		PULLEY (A)
4		INTERRUPTER PC.B (M)
5		HOLDER L (B)
6	M04200716	BELT
7	M04200633	PULLEY (B)
8		BEARING
9	M04200737	WORM GEAR
10	M04200553	MOTOR ASS'Y
12		BAND (MOTOR)
13	M04200678	GUIDE SHAFT
14	M04200738	GEAR
15		ARM BASE
16		CUSHION (ROLLER)
17	M04200722	ROLLER
18		BASE SHAFT
19		ECCENTRIC PIN
20		
21		RELAY PC.B
22		HOLDER
23		SPRING
24	M04200650	LEVER ASS'Y
25	M04200679	BEARING
26		ARM BASE
27	M04200305	INTERRUPTER (GP1S03)
28		TONEARM ASS'Y
30	M04200255	DIAL COAD ASS'Y
31	M04200530	SOLENOID
32	M0641C345	STYLUS ASS'Y (3D-54M)
36	M04200677	SHAFT
37		COVER (TONEARM)
38		LUG TERMINAL
39		SCREW 2-2x4
40		SCREW 2-3x6
41		SCREW 3-2x6
42		SCREW M2.6x3
43		SCREW M2.6x4
44		SCREW 2-3x6
45		E-RING p1.5
46		WASHER
47		SCREW (HIGHT ADJ.)
48		CLANPER
48	M07602060	CLAMPER
49		LUG TERMINAL
50	M04200375	SW-LEAF
51		SPRING
52		SPRING
53		SHAFT
54		GEAR POST
55		HOLDER L (A)
56		RABBER CUSHION
57	M04200304	INTERRUPTER (ON1112)
58		E-RING p4
59		E-RING p2.5
60		SPRING
61		E-RING p3
62		WASHER
63		E-RING p2

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PARTS LIST

NOTE: ⚠ and ▒▒▒ marks components on Parts list have special characteristics to keep safety performance of this unit. When replacing any of these parts, be sure to use only specified parts.

Symbol No.	Parts No.	Description
		Diode
D11	M05255320	S5566B
D12	M05255320	S5566B
D14	M07556320	DS442
D21	M04200325	LA401VK2 (MRSS)
D22	M05255325	LN21R (REPEAT)
D23	M05250325	LN31G (33/45)
D101	M07556320	DS442
D102	M07556320	DS442
D103	M07556320	DS442
D104	M07556320	DS442
D105	M07556320	DS442
D106	M07556320	DS442
D121	M07556320	DS442
D122	M07556320	DS442
D123	M07556320	DS442
D124	M04117321	RD6.2E-B2
D125	M07556320	DS442
D151	M07556320	DS442
D152	M07556320	DS442
D171	M07556320	DS442
D172	M07556320	DS442
D173	M07556320	DS442
D191	M07556320	DS442
D192	M07556320	DS442
D201	M07556320	DS442
D202	M07556320	DS442
D203	M04177321	RD6.2E-B2
D204	M07556320	DS442
D211	M07556320	DS442
D221	M04177321	RD6.2E-B2
D251	M07556320	DS442
D252	M07556320	DS442
D253	M07556320	DS442
D254	M07556320	DS442
D321	M07556320	DS442
D401	M05255320	S5566B
D402	M07556320	DS442
D403	M05255320	S5566B
D405	M07556320	DS442
D406	M07556320	DS442
D408	M07556320	DS442
D409	M07556320	DS442
D410	M07556320	DS442
D415	M04200328	LE.Diode
D415	M07556320	DS442
D416	M07556320	DS442
D421	M05255320	S5566B
D422	M05232322	RD9.1E-B3
D423	M07556320	DS442
D424	M07556320	DS442
D425	M07556320	DS442
D426	M04177321	RD6.2E-B2
D427	M07556320	DS442
D429	M05232327	RD8.2E-B2
D430	M07556320	DS442
D431	M07556320	DS442
D432	M07556320	DS442
D433	M07556320	DS442
D434	M07556320	DS442
D435	M07556320	DS442

Symbol No.	Parts No.	Description
D436	M07556320	DS442
D437	M07556320	DS442
D438	M07556320	DS442
D439	M07556320	DS442
D440	M07556320	DS442
D441	M05255320	S5566B
D442	M07556320	DS442
D445	M04200328	LE.Diode (NORMAL) GRN
D446	M04200328	LE.Diode (SPECIAL) GRN
D447	M04200328	LE.Diode (METAL) GRN
D448	M04200329	LE.Diode (PEAK) RED
D449	M04200329	LE.Diode (REC) RED
D450	M04200330	LE.Diode (IS/BS) ORG
D451	M04200330	LE.Diode (PAUSE) ORG
D452	M04176320	RD5.1E-B2
D455	M07556320	DS442
D456	M07556320	DS442
D461	M07556320	DS442
D462	M07556320	DS442
D466	M07556320	DS442
D467	M07556320	DS442
D468	M07556320	DS442
D469	M07556320	DS442
D470	M07556320	DS442
D471	M07556320	DS442
D472	M07556320	DS442
D473	M07556320	DS442
D474	M07556320	DS442
D475	M07556320	DS442
D746	M07556320	DS442
D477	M07556320	DS442
D478	M07556320	DS442
D479	M07556320	DS442
D480	M07556320	DS442
D481	M07556320	DS442
D482	M07556320	DS442
D483	M07556320	DS442
D484	M07556320	DS442
D485	M07556320	DS442
D486	M07556320	DS442
D487	M07556320	DS442
D488	M07556320	DS442
D490	M04200320	RD9.1E-B1
D491	M07556320	DS442
D4C1	M04200321	DAN401
D4C2	M07556320	DS442
W449	M07556320	DS442
D501	M07556320	DS442
D502	M07556320	DS442
D503	M07556320	DS442
D504	M07556320	DS442
D505	M07556320	DS442
D507	M07556320	DS442
D508	M07556320	DS442
D509	M07556320	DS442
D756	M07556320	DS442
D7A1	M07556320	DS442
D7A2	M07556320	DS442
D7A3	M07556320	DS442
D7A4	M07556320	DS442
D7A5	M07556320	DS442
D7A6	M07556320	DS442

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Symbol No.	Parts No.	Description
D7A7	M07556320	DS442
D7A8	M07556320	DS442
D7B1	M07556320	DS442
D7B2	M07556320	DS442
D7B3	M07556320	DS442
D7B4	M07556320	DS442
D7B5	M07556320	DS442
D7B6	M07556320	DS442
D7B7	M07556320	DS442
D901	M07229323	GP20B ⚠
D902	M07229323	GP20B ⚠
D903	M07229323	GP20B ⚠
D904	M07229323	GP20B ⚠
D905	M05255320	S5566B ⚠
D906	M05255320	S5566B ⚠
D907	M05255320	S5566B ⚠
D908	M05225320	S5566B ⚠
D909	M04200322	RD12E-B1
D910	M04200322	RD12E-B1
D911	M04200322	RD12E-B1
D912	M05232326	RD7.5E-B1
D913	M04184321	RD12E-B2
D914	M04200323	RD24E-B4
D915	M07556320	DS442
D931	M05255320	S5566B
D932	M05250321	RD5.6E-B1
D951	M07556320	DS442
D952	M04200324	RD13E-B1
D953	M07556320	DS442
D956	M07556320	DS442
LED	M05237320	SLF-201C
LED1	M05255325	LN21R (STEREO)
LED1	M05255325	LN21R (PLAYER)
		IC.s
IC101	M05225312	M5218L
IC102	M05225312	M5218L
IC103	M04200316	HD14538BP
IC151	M04200317	BA612
IC152	M04200318	M52031
IC191	M05225312	M5218L
IC201	M04200310	LA1260
IC202	M04200311	MPC1026C
IC401	M04200313	MPD7538C-025
IC402	M04200314	MPD8243C
IC403	M07602310	TC4081BP
IC404	M07602310	TC4081BP
IC405	M07527343	BA6109
IC406	M07527343	BA6109
IC407	M07527343	BA6109
IC501	M05183344	M51522L
IC502	M04200315	MPC1210C
IC503	M04172315	M51143L
IC602	M04200315	MPC1210C
IC701	M05225312	M5218L
IC702	M07660310	LC7815H
IC703	M04200312	STK4151MKII

Symbol No.	Parts No.	Description
*		**Transistors**
Q101	M04200302	DTC124ES
Q102	M04200302	DTC124ES
Q131	M04200302	DTC124ES
Q191	M07314303	2SC2001
Q192	M05232302	2SA952
Q201	M07152303	2SK55 (TUNER)
Q202	M04070303	2SC535
Q203	M04066313	2SC461
Q204	M04070304	2SC710D
Q210	M07390303	2SC2603
Q211	M07390304	2SA1115
Q212	M04200300	DTA124ES
Q220	M07390303	2SC2603
Q221	M04200300	DTA124ES
Q221	M07390303	2SC2603 (TUNER)
Q230	M07390304	2SA1115
Q231	M07390304	2SA1115
Q251	M04200302	DTC124ES
Q260	M07390303	2SC2603
Q301	M07390303	2SC2603
Q302	M07390303	2SC2603
Q401	M07390303	2SC2603
Q402	M07390304	2SA1115
Q403	M07390304	2SA1115
Q404	M05147311	2SD471
Q405	M05147311	2SD471
Q406	M04200300	DTA124ES
Q407	M04200300	DTA124ES
Q408	M04200300	DTA124ES
Q409	M04200300	DTA124ES
Q410	M07390303	2SC2603
Q412	M04200302	DTC124ES
Q413	M07390303	2SC2603
Q4A1	M05255300	2SK381
Q4A2	M07390304	2SA1115
Q4C1	M07390303	2SC2603
Q4C1	M07390303	2SC2603
Q4C3	M07390303	2SC2603
Q4C4	M04200302	DTC124ES
Q501	M04200301	2SD1450
Q502	M07113310	2SC1708
Q503	M07113310	2SC1708
Q504	M07390303	2SC2603
Q505	M07390303	2SC2603
Q506	M07390303	2SC2603
Q507	M04200301	2SD1450
Q508	M07390303	2SC2603
Q509	M07390303	2SC2603
Q510	M07390303	2SC2603
Q511	M07140303	2SA847
Q512	M07390303	2SC2603
Q515	M07390303	2SC2603
Q517	M07390303	2SC2603
Q518	M07390304	2SA1115
Q521	M04200301	2SD1450
Q522	M04200301	2SD1450
Q523	M07390303	2SC2603
Q525	M07390303	2SC2603
Q601	M04200301	2SD1450
Q602	M07113310	2SC1708

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Symbol No.	Parts No.	Description
Q603	M07113310	2SC1708
Q605	M07390303	2SC2603
Q607	M04200301	2SD1450
Q608	M07390303	2SC2603
Q609	M07390303	2SC2603
Q610	M07390303	2SC2603
Q625	M07390303	2SC2603
Q701	M04200301	2SD1450
Q7A1	M05255300	2SK381
Q7A1	M05255300	2SK381
Q7A3	M07390304	2SA1115
Q7A4	M07390304	2SA1115
Q7A5	M04200300	DTA124ES
Q7A6	M07390304	2SA1115
Q7A7	M04200302	DTC124ES
Q7A8	M04200300	DTA124ES
Q7A9	M07390304	2SA1115
Q801	M04200301	2SD1450
Q901	M05255301	2SD1266
Q902	M05255301	2SD1266
Q903	M05147311	2SD471
Q904	M05255300	2SK381
Q905	M07390303	2SC2603
Q906	M07660303	2SB941
Q907	M04184300	2SA1284
Q908	M04200300	DTA124ES
Q909	M07390304	2SA1115
Q910	M05255300	2SK381
Q951	M07390303	2SC2603
Q952	M07390303	2SC2603
Q953	M07390303	2SC2603

Electorick Parts

	M04200420	VC-PLASTIC	
C901	M07492360	C-Ceramic 500V 0.01	⚠
C905	M04174430	C-Elect 25V 3300	
C971	M04180430	C-Ceramic 400V 0.0047	⚠
C972	M04180430	C-Ceramic 400V 0.0047	⚠
C973	M04201431	C-Ceramic 400V 0.001	⚠
CF201	M04200445	Ceramic Filter	
CF202	M04200445	Ceramic Filter	
CF301	M07556445	Ceramic Filter	
CF901	M04200445	Ceramic Filter	
X401	M04184510	Ceramic OSC	
F901	M04167490	Fuse 800mA-SEMKO	⚠
F902	M07325492	Fuse 2A-SEMKO	⚠
FL401	M04200340	TUBE-FLOUR	
FL501	M04200446	Filter	
FL502	M04200447	Filter	
FL601	M04200446	Filter	
FL602	M04200447	Filter	
J1	M04200475	Pin-Jack (IN/OUT)	
J2	M04200470	Connector (PLAYER CONTROL DIN)	

Symbol No.	Parts No.	Description
J4	M04200476	Jack (MIC)
J5	M04200477	Jack (PHONES)
J6	M04200480	Terminal Board (SPEAKER)
Z201	M07632480	Terminal Board (ANTENNA)
K751	M04200535	Reiay
L201	M07672516	Coil (Antenna)
L202	M07441533	Coil (RF)
L203	M04201510	Coil (LPF)
L204	M07510511	Coil
L351	M07510511	Coil
L352	M07510511	Coil
L501	M05237510	Coil 4.7mH
L601	M05237510	Coil 4.7mH
L701	M04200511	Coil
L801	M04200511	Coil
LA201	M04200565	Lamp (DIAL)
R583	M07139411	R-Fuse 1/2W 22k
S101	M04200357	SW-Push (PROGRAM)
S102	M04200357	SW-Push (MUSIC NO.)
S103	M04200357	SW-Push (MEMORY)
S104	M04200357	SW-Push (CALL)
S105	M04200357	SW-Push (CLEAR)
S106	M04200357	SW-Push (START)
S107	M04200357	SW-Push (REPEAT)
S108	M04200357	SW-Push (33/45r.p.m.)
S109	M04200357	SW-Push (REV.)
S110	M04200357	SW-Push (FWD.)
S111	M04200357	SW-Push (UP/DOWN)
S112	M04200357	SW-Push (STOP)
S113	M04184360	SW-Slide (SENSITIVITY)
S114	M04200359	SW-Push (OPEN)
S115	M04200397	SW-Push (POWER)
S201	M04202355	SW-Push (AM/FM)
S202	M04202355	SW-Push (MODE/TONE)
S301	M04202356	SW-Push (LM/MW)
S401	M04200360	SW-Slide (TIMER)
S402	M04200354	SW-Push (TUNER)
S403	M04200354	SW-Push (AUX)
S404	M04200354	SW-Push (START)
S405	M04200354	SW-Push (IS/BS)
S407	M04200354	SW-Push (REPEAT)
S408	M04200354	SW-Push (NEXT)
S409	M04200354	SW-Push (CLEAR)
S411	M04200354	SW-Push (MEMORY)
S412	M04200354	SW-Push (DOLBY NR)
R413	M04200354	SW-Push (MUSIC NO.)
S414	M04200354	SW-Push (A/B)
S415	M04200354	SW-Push (TAPE NO.)
S416	M04200354	SW-Push (PROGRAM)
S418	M04200354	SW-Push (CALL)
S419	M04200354	SW-Push (PAUSE)
S421	M04200354	SW-Push (FF)
S422	M04200354	SW-Push (A PLAY)
S423	M04200354	SW-Push (B PLAY)
S424	M04200354	SW-Push (REW)
S425	M04200354	SW-Push (STOP)
S426	M04200354	SW-Push (RECORD)
S427	M04200354	SW-Push (REC.MUTE)

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Symbol No.	Parts No.	Description
S430	M04200357	SW-Push (RESET)
S701	M04202355	SW-Push (HIGH BOOST)
S702	M04202355	SW-Push (LOW BOOST)
S901	M04176355	SW-Push (POWER) ⚠
T201	M04200502	Trans-IF
T301	M04200517	Coil-Antenna (MW)
T302	M04200510	Coil-OSC (MW)
T303	M07556502	Trans-IF
T351	M04202516	Coil-Antenna (LW)
T352	M04202510	Coil-OSC (LW)
T901	M04202501	Trans-POWER ⚠
T902	M04202500	Trans-POWER (Back up) ⚠
TC205	M07608425	VC-TRIM.-7NPO (Blue)
TC301	M07556425	VC-TRIM.-30N750 (GRN)
TC351	M04200420	VC-PLASTIC
TC352	M04200420	VC-PLASTIC
TB201	M07085500	TRANS-BALUN
VR101	M04200412	VR-SEMI B-470k
VR102	M04200413	VR-SEMI B-3.3k (45r.p.m.)
VR103	M04200414	VR-SEMI B-1k (33r.p.m.)
VR104	M04200415	VR-SEMI B-220k
VR105	M04200415	VR-SEMI B-220k
VR201	M05189360	VR-SEMI B-5k
VR401	M04185410	VR-SEMI B-15k
VR501	M04200410	VR-SEMI B-22k
VR502 /602	M04200403	VR-W-20k (REC. LEVEL)
VR503	M04200411	VR-SEMI B-47k
VR504	M05245411	VR-SEMI B-100k
VR601	M04200410	VR-SEMI B-22k
VR603	M04200411	VR-SEMI B-47k
VR604	M05245411	VR-SEMI B-100k
VR701 /801	M04200400	VR-SLIDE B-59k (MIXING)
VR702 /802	M04200401	VR-SLIDE Z250k (VOLUME)
VR703	M04200402	VR-SLIDE Z-250k (BALANCE)
	M04200435	COIL OSC UNIT
Packing/Accsessory		
101	M04200920	Packing Bag
102	M04200622	TURNTABLE SEAT
103	M04200921	PACKING BAG (PLAYER)
104	M04200910	CUSHION SET
105	M04202900	PACKING BOX
	M04057540	T-FM-ANTENA
	M07556516	COIL ANT. (AM-LOOP)
	M07443934	PARS BAG
	M07191603	45-ADAPTOR
106	M04204940	IB
	M04184055	HOLDER-ANT OUTSIDE

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